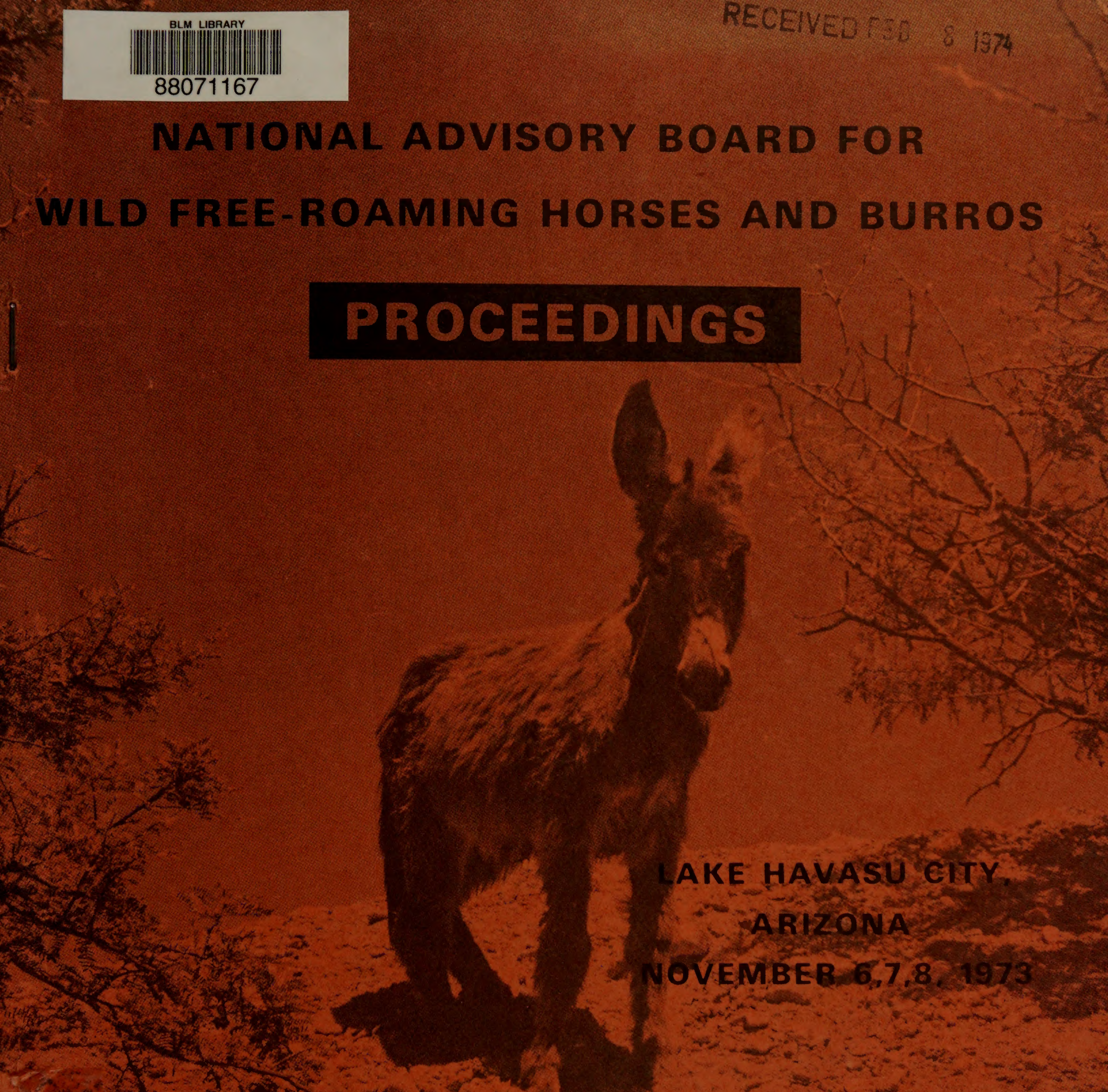
NATIONAL ADVISORY BOARD FOR WILD FREE-ROAMING HORSES AND BURROS

PROCEEDINGS



LAKE HAVASU CITY,
ARIZONA
NOVEMBER 6,7,8, 1973

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Bureau of Land Management
764 Horizon Drive
Grand Junction, Colorado 81501

M E E T I N G A G E N D A

National Advisory Board on Wild Free-Roaming Horses and Burros

Ramada Inn
Lake Havasu City, Arizona
November 6-8 1973

November 6

7 a.m.	Leave Ramada Inn on field trip to review management problems associated with wild burros.
5 p.m.	Return to Ramada Inn

November 7

8 a.m.	Pete Sanchez - Death Valley National Monument Burros and Wildlife in Death Valley
8:45 a.m.	John Russo - Arizona Game and Fish Department Burro Food Habits and Competition
9:30 a.m.	Larry Powell - Bureau of Land Management Burros on Public Land
10:15 a.m.	Richard Weaver - California Fish and Game Dept. Census and Management
11 a.m.	Patricia Moehlman - Chico State College Social Organization and Ecology of the Wild Burro
11:30 a.m.	Lunch
1 p.m.	Kathy Ayres - Forest Service Wild Horses of the White Mountains
1:30 p.m.	Principles for Wild Burro Management (Panel discussion)
2:30 p.m.	Public Comments
4 p.m.	Bureau of Land Management - Forest Service Reports

November 8

8:30 a.m.	Advisory Committee Discussion and Recommendations on Wild Burro Management
11:30 a.m.	Adjourn

Approved:

Director, Bureau of Land Management

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Board Member Present - November 7, 1973

Dr. C. Wayne Cook, Chairman

Mrs. Pearl Twyne

Mr. Roger Hungerford

Mr. Roy Young

Mrs. Velma B. Johnston

Mr. Dean T. Prosser, Jr.

Dr. Floyd W. Frank

Mr. Ben Glading

Mr. Ed Pierson

Agency Personnel Present - November 7, 1973

Mr. Joe T. Fallini - Arizona State Director, Bureau of Land Management

Mr. Kay W. Wilkes - Chief, Division of Range, Bureau of Land Management (Representing the Associate Director, Bureau of Land Management)

Mr. W. B. "Wally" Gallaher - Assistant Director, Division of Range Management, Forest Service (Representing the Secretary of Agriculture)

Mr. Robert J. Springer - Range Conservationist, Bureau of Land Management

Dr. Floyd E. Kinsinger - Bureau of Land Management, Denver

Mr. Max Bruce - District Manager, Bureau of Land Management, Yuma

Mr. Riley Foreman - District Manager, Bureau of Land Management, Phoenix

Mr. Harold Ramsbacher - Chief, Division of Resources, Bureau of Land Management, Phoenix

Mr. Bob Whitaker - Public Information Officer, Bureau of Land Management, Phoenix

Mr. V. L. Hart - Natural Resource Specialist, Bureau of Land Management, Phoenix

Mr. Robert Steele - Area Manager, Bureau of Land Management, Lake Havasu City

Mr. Gary Ferria - Wildlife Biologist, Bureau of Land Management, Yuma

Mrs. Florence Chaffin - Secretary, Bureau of Land Management, Phoenix

Mr. Robert M. Williamson - Branch Chief, Range Administration, Forest Service, Alberquerque, New Mexico

Mr. Douglas Reid - Forest Service, Bishop, California

Dr. Robert Fletcher - National Park Service, Santa Fe, New Mexico

Mr. Charles T. Douglas - University of Nevada, NPS, Las Vegas

Mr. Joe B. Rodriquez, Jr. - Bureau of Sport Fisheries and Wildlife, Yuma

Mrs. Bob Barling - Naval Weapons Center, China Lake, California

Mr. Jim Uhe - Commander, Naval Weapons Center, China Lake, California

Mr. Kent Jackson - Arizona Game and Fish, Kingman

Mr. George Welsh - Arizona Game and Fish, Kingman

Mr. Henry C. Reynolds - Arizona Game and Fish, Temple, Arizona

Mr. R. A. Jantzen - Director, Arizona Game and Fish, Phoenix, Arizona

Mr. James H. Snowden - California Fish and Game, Blythe, California

Mr. James Crew - California Fish and Game, Brawley, California

Mr. Bonner Blong - California Fish and Game, Idyllwild, California

Mr. Hal Cribbs - California Fish and Game, California

Mr. Gary B. Stacey - California Fish and Game, Blythe, California

Mr. Forest T. Reynolds - California Fish and Game, Blythe, California

People signing Visitors Roster

Mr. Ben Avery - Arizona Republic, Phoenix

Mr. D. Ginelli - Arizona Magazine, Lake Havasu City

Dr. Robert D. Ohmart - Arizona St. University, Temple, Arizona

Miss Susan Woodard - UCLA, Los Angeles, California

Mr. Herbert U. Martin - Humane Society of the U.S., Sacramento, California

Mr. Gunther Wertler - University of Arizona, Tuscon

Mr. Burton P. Mouras - President, Animal Protection Institute of America, Sacramento, California

Ms. Paula Dents - Animal Protection Institute of America

Mr. Joel E. Farrel - Safford, Arizona

Mr. T. J. Knapp - Lake Havasu City, Arizona

Public Appearances - November 7, 1973

Mrs. Bob Barling - Naval Weapons Center, China Lake, California

Mr. Belton P. Mouras - Animal Protection Institute, Sacramento, California

Mr. Ben Avery - Arizona Republic, Phoenix

Mr. Herbert Martin - Humane Society of U.S., Washington, D.C.

Proceedings of The National Advisory Board

for

WILD FREE-ROAMING HORSES AND BURROS

Lake Havasu City, Arizona
November 6, 7, 8, 1973

Introduction:

The fourth meeting of the National Advisory Board on Wild Free-Roaming Horses and Burros was held in Lake Havasu City, Arizona. The meeting was requested by Rogers C. B. Morton, Secretary of the Interior, on behalf of himself and Secretary Butz of the Department of Agriculture by memorandum dated September 17, 1973.

This meeting was scheduled in the Southwest for the Board members to observe burro habitat and gather facts from people experienced in burro food habits and behaviour. People knowledgeable of the Southwest and burro traits were invited to make presentations to the Board on November 7, 1973.

The first day of the meeting (November 6) was spent on a field trip in and around Lake Havasu City observing burros and their habitat. This included a short boat trip on Lake Havasu to observe burro habitat areas on both sides of the Colorado River.

The second day of the meeting was held at the Ramada Inn in Lake Havasu City. The meeting was called to order at 8:30 a.m. by the Chairman,

Dr. C. Wayne Cook, and thereafter was conducted in accord with the agenda outline, with the exception that Bill Radtkey, California BLM State Office, replaced Larry Powell on the agenda.

Proceedings--National Advisory Board

on

WILD FREE-ROAMING HORSES AND BURROS

November 7, 1973

The meeting of the National Advisory Board on Wild Free-Roaming Horses and Burros was called to order at 8:30 a.m., November 7, 1973, at Lake Havasu City, Arizona, by Chairman C. Wayne Cook.

The Chairman introduced the first scheduled speaker for the morning. The outline or briefing of each speaker is made a part of this proceedings record. A short bibliography of each person precedes his or her presentation in the appendices. As each speaker finished, a 5-minute period was allowed for questions.

A number of colored slides of wild horses and burros in their native habitat were shown during the day that enhanced excellent presentations.

During the period on the agenda for hearing comments from the public, the following persons appeared before the Board:

Mrs. Bob Barling, Naval Weapons Center, China Lake, California

Mr. Belton P. Mouras, Animal Protection Institute, Sacramento, Calif.

Mr. Ben Avery, Arizona Republic, Phoenix, Arizona

Mr. Herbert Martin, Humane Society of the U.S., Washington, D.C.

The full text of their comments is a matter of record with the BLM. The general context of their comments is as follows:

Mrs. Barling described the desert terrain and conditions found on the 17,000 sq. miles of the Naval Weapons Center. She said wildlife management in military bases is not unusual or unique and is done through cooperation with Bureau of Sport Fisheries and Wildlife and the California Department of Fish and Game.

Burros are a problem over much of the Naval Weapons Center. Last winter in one area, after a drought period, there was not sufficient food for the concentration of burros. Colored slides revealed the heavy trailing use and cropping of vegetation near the only waters available to the area of heavy concentrations of burros.

In order to fully assess the impact of burros on the Naval Weapons Center, an environmental impact statement is being prepared. To solve regional problems on burros with other Federal and State agencies, an ad hoc committee has been formed to exchange information at the field level.

The NWC intends to maintain herds of burros consistent with the carrying capacity of the land consistent with the values of other wildlife on the base.

A memorandum on feral burros on the Naval Weapons Center is included as appendix 7.

Mr. Belton P. Mouras stated the concerns of his organization range from the multitude of all animals to interest in a single animal or species.

At this time, they would like to see wild burros and horses maintained in a natural and undisturbed state, free from unnecessary fear, pain or suffering. His organization feels in spite of the fact that burros are not a potential game animal like bighorn sheep, they do have a rightful place on the range and reasonable and normal competition with other species, including game species, should be tolerated.

If burros are having an adverse impact on a range and need reduction in numbers, every effort will be made to capture and relocate the animals as the first step.

Disposition by destruction, when absolutely necessary, should be accomplished by a method considered humane.

Also, Mouras stated he hoped attention would be given to the development of long-range measures such as chemosterilization, which might prevent the necessity of removing surplus animals periodically by

violent means. Careful selection criteria should be considered when removing the animals to insure future viable animals.

Mr. Avery pointed out in any wildlife or burro problems, the public must be interested to get action. He told of the progress in attempting to restore the desert bighorn sheep in greater number within his State. He said, we do have burro-bighorn conflicts without any question. He also stated he doesn't like to go and work on a waterhole, expending a lot of time and effort, and then have the waterhole taken over by burros excluding the sheep. This happens too frequently. However, Mr. Avery said he does feel that the burro does have a place in Arizona. There should not be this conflict between the two species. Mr. Avery would urge the Board to adopt a policy to try and separate burros and bighorn. Burros might be moved to other ranges by excluding them from waterholes. Burros should be relocated where possible.

Mr. Herbert Martin stated that the purpose in being here is to express the concern of the HSUS, and its many members across the country for the health and welfare of wild free-roaming horses and burros as defined in PL 92-195. Ideally, his organization would like to see all animal species living side by side without conflict. Unfortunately, man must attempt to help the ecological scales level with a semblance of balance. People must resolve or at least minimize the conflicts which exist between certain species

as well as their habitat.

Horses and burros must be managed in such a way as to equally consider other forms of life around them.

The HSUS hopes that sufficient information can be gathered about the ranges inhabitated by horses and burros so as to accurately determine what serious conflicts exist and how they can be minimized. The Humane Society wishes to see improvement of range, which in turn will help all inhabitants. All action, while based on scientific fact, be tempered with compassion; that all managerial action follow as closely to the natural order of things as is possible.

The next order of business was the agency reports. Mr. Gallaher stated that the Forest Service had not received any claims to date under the claiming provisions for private horses on public lands as provided for in Public Law 92-195. On Forest Service lands the habitat of the horses is being mapped using the areas of use as of December 15, 1971, as nearly as can be determined. A management plan has been completed and implemented in Oregon in cooperation with BLM, Oregon State Fish and Game Department, and the Soil Conservation Service as an advisory source to private landowners. This could be a prototype for other agreements between interested agencies. It will take a cooperative effort by the Board, agencies and the public to properly protect, manage, and control wild horses and burros.

Mr. Kay Wilkes presented the Bureau of Land Management progress report stating what the Board might look forward to next year. Appointments for Board members are on a calendar year basis. The Bureau and Forest Service submitted to the Secretaries of the Interior and Agriculture a proposal that the present Board be reappointed for another year.

As of October 31, with 15 days left in the claiming period under the regulations, BLM has received 112 claims for 1,476 horses and 23 burros. Depending on the number of claims received, each District Manager will develop a gathering schedule. The affidavit submitted will be reviewed and must contain enough information to warrant gathering the animals. If it does, written authorization will be issued to the claimant indicating time and methods of recovery of the claimed animals. As the animals are gathered, they will be subjected to close inspection in the corral by the authorized officer and State brand inspector. Horses determined to be wild free-roaming will be returned to the public lands.

The horses rounded up near Howe, Idaho, and impounded at North Platte, Nebraska, by the BLM and Forest Service will be returned to Idaho this week. The decision of the Justice Department not to prosecute left the ownership of the horses involved undetermined. The horses will be subject to the claiming process upon their return. The details on how and who will determine ownership is undetermined at this time. Mr. Wilkes stated, "We have assured the public, under whatever process is used, they

will be given an opportunity to comment and interject what information they may have on the ownership of the horses. The horses will be under protective custody at Idaho Falls and if the animals are determined to be wild free-roaming they will be returned to the Little Lost River area where gathered. If the animals are proven to be privately owned, they will be turned over to the oppropriate owners."

Another situation receiving considerable publicity is the suspension of a grazing license in the Bookcliff range in Colorado. The area in question is a quite rugged terrain with limited vegetation. The grazing allotments have been under study for some time. The Bureau was in the process of eliminating cattle trespass in the area, when the base properties were sold to another individual. A Notice of Closure to all livestock grazing had been issued. Deer abound in the area. A range survey determined that there was not enough forage to provide for the deer and the herd of horses ranging in the allotments. There has been no determination of the ownership of the horses, since the claiming period is not over until November 15.

With limited forage available, the District Manager suspended the grazing privileges for a period of time to allow him to analyze the situation and make an appropriate determination of the management goals for the area. The livestock operator has appealed this action.

Mr. Wilkes said, "Situations will arise complicating the protection, management, and control of wild horses and burros on areas having intermingled ownership. The BLM in many instances is the minority land manager within an area (i.e., along railroads where earlier land grants were given in the Western States). An attempt will be made to workout cooperative agreements where feasible. Where an agreement cannot be negotiated, the private landowner may require the horses to be removed from his private lands.

"A proposed regulation, if approved, will require all livestock to be branded or marked before being turned onto the national resource lands under a license, lease, or permit. This will eliminate much of the confusion in differentiating between horses on the open range privately owned and those that are wild and free-roaming."

"The Bureau has made progress in enforcement authority under PL 92-195. The regulations passed the authority of arrest from the Secretary to the Director. Considerable thought has been given to the impact of this authority being given our organization. At present our field people have the authority to enforce all provisions of the Act, except the actual arrest authority. Criteria and strict guidelines are being established to select individuals that will receive this delegation as a law enforcement officer. Ten employees have been selected and are participating in the law enforcement academy in Washington, D.C. Upon completion of this particular course, we feel they will have the minimum qualifications necessary for arrest authority delegation."

"We are not relying entirely on arrest authority as the only enforcement measure. All employees have the responsibility to report violations, preserving evidence and information necessary to properly prepare an investigative report."

"The act is quite specific as to when an arrest can be made. The violation has to occur in the presence of the individual. It will be quite unusual to have a man on the scene, unless one suspects or is alerted that something is going to occur. "Therefore," Wilkes stated, "the other aspects of the enforcement requirements, along with a public information program is going to be a most important tool in protection of wild horses and burros."

Letters and resolutions were received from individuals, organizations and agencies, giving recommendations on wild horse and burro management. These were read in their entirety to the Board and made a matter of record.

Excerpts from these comments are included as follows: A letter from Jolene Weege of San Diego, California, was read. Her concern is that burro management has been extremely controversial at this time, especially in regard to possible habitat conflicts with desert bighorn sheep. She recommended that appropriate studies be made before management decisions are made that would adversly affect the burros.

The following resolution was received from the Western Association of State Game and Fish Commissioners which recently met at Salt Lake City, Utah:

> "Therefore, be it resolved, that the Western Association of State Game and Fish Commissioners urges that populations of wild horses and burros be maintained at levels where improper competition with native wildlife populations is eliminated."

A resolution from the California Wild life Federation was read. The resolution recommended, under the management provisions of the law, herds of wild horses and burros be controlled to prevent competition with native big game animals. The Federation recommended studies to determine the degree of competition and methods of control.

A letter from the Assistant Director of the National Park Service, Joseph C. Rumburg, Jr., was read concerning a resolution passed at the last meeting by the Board recommending Public Law 92-195 be amended to include all Interior Bureaus including the National Park Service. A portion of the letter stated: "National Park Service goals, by legislative mandate, are those of preservation and protection of the wilderness and natural and historic areas under our administration in their original natural state."

"Normally, domestic animals such as horses and burros are not found in wild lands and in backcountry. The ones which have survived in their wild communal state came there when their gold-prospector owners, miners

and pioneer traveller owners died or abandoned the animals to shift for themselves in the wilderness. Thus they banded together with other wandering animals and somehow managed to survive and to multiply. They ate the vegetation of the field and forest destroying much of these less hardy flora and fauna. This, they still do in those areas where they have adjusted to the wild environment. The damage to native vegetation and terrain is substantial in those areas where they have been permitted to remain. Serious and costly management problems result to be resolved by Government land managers."

"Through our master planning, park service has means available to it to deal with the problem in each area were it subsists. Our legislation provides for adequate controls to handle the problem insofar as this bureau's needs require. The National Park Service, therefore, would object to any changes in PL 92-195 with respect to its application in the National Park System."

A resolution adopted by the National Association of State Departments of Agriculture at their formal meeting in Portland, Maine, on September 27, 1973 discouraged state agencies from entering into cooperative agreements with the Bureau of Land Management and Forest Service for identifying joint responsibilities for implementing and administering the Wild Horse and Burro Act.

A letter from the National Mustang Association, Inc., by Kent Gregersen was read into the record. He was highly critical of the regulations of both agencies (BLM and Forest Service) and their personnel.

A report was read submitted by the Feral Organized Assistance League, Inc., Al Kania, President.

He stated he did not think the Board was following up on public comments received at previous meetings. He also said he had not received adequate or timely information on wild horses and burros from the Bureau of Land Management. He also questioned the Bureau's action in the suspension of livestock grazing privileges in the Bookcliff area of Colorado. Information on burros in Death Valley National Monument was attached to the letter.

Dr. Floyd Kinsinger from the BLM Denver Service Center presented a research prospectus to the Board. This prospectus detailed the needs of the Bureau in relation to wild horse and burro information that was now lacking for the management of these animals. The amount of research initiated by the Bureau will depend on the amount of funding for wild horses and burros that can be anticipated each year.

Dr. Kinsinger stated it was imperative that the research begin immediately as management problems are already appearing, where research might furnish some answers on wild horse and burro behavior, food habits, competition with other wildlife species, etc. Each member of the Board received a copy of the prospectus.

The next order of business was resolutions and recommendations from board members. Mrs. Velma Johnston read the following resolution:

> "I move that the National Advisory Board on Wild Free-Roaming Horses and Burros recommend to Secretary of the Interior Rogers C. B. Morton and to Secretary of Agriculture Earl Butz that they use the influence of their offices toward the end that the Department of Justice reconsider its declination of criminal prosecution, and that an intensive investigation be conducted by the Department of Justice in the roundup of free-roaming horses in the Little Lost River area near Howe, Idaho; and further that the Chairman of this Board convey the recommendation to the Secretaries without delay; and that a copy of the recommendation be forwarded to the Lands and Natural Resources Division of the Department of Justice, Washington, D.C."

After considerable debate by all members present, the motion on the resolution was delayed to the following morning.

November 8, 1973, Proceedings

The Chairman called the meeting to order at 8:30 a.m. The resolution recommended by Mrs. Johnston the previous day was the first item for review. The functions of the Board were examined. It was suggested by one member that the Board maintain a broad and general position and not get involved in the details of any particular management situation. A lengthy discussion followed with the Board not approving the resolution.

A substitute motion was offered. Since passage of the 1971 Wild Horse and Burro Act, several alleged instances of poorly conceived roundups have come to public light, presumably on wild horses. To the knowledge of the Board these have not been legally prosecuted in the spirit of the act. We recommend that the Secretaries give special attention to assure efficient and prompt prosecution of violations of the act. Laxity in this stage of the act will tend to result in public disregard from here out. To the end of effectuating the Wild Horse and Burro Act, the Board advises that the Secretaries give priority, particularly to efforts to assure that such instances be properly and efficiently investigated and prosecuted and, further, that such efforts be coordinated with the U.S. Attorney General's Office at the national and local levels. The substitute motion did not pass.

The Board recommended that the Secretary of the Interior and the Secretary of Agriculture instruct the two land management agencies to begin immediately the management of wild horse and burro populations on public lands in

direct relationship to sound range management practices under the multiple-use concept for each individual area where these animals reside.

The recommendation was made that the Bureau of Land Management and Forest Service had the full support of the Board in forewarning the public that control measures beyond removal of live animals from an area might be necessary in the future for the protection of other resources on public lands.

The Board recommended where practical, research on wild horses and burros, should be conducted outside the agencies under contracts and cooperative agreements.

The Board commended the Bureau of Land Management and Forest Service for their identification of research needed in the protection, management and control of wild horses and burros. The Board recommended that the agencies expedite the research program and request adequate funding to accomplish the task.

The final Board recommendation commended the Arizona Bureau of Land Management employees for their efforts in arranging the tour and meeting in Lake Havasu City providing the opportunity for the Board to view horse and burro habitat. The Board particularly wished to thank those speakers

who appeared before the Board in their excellent efforts to enlighten the Board on wild horses and burros.

Sec. 10 of the Wild Horse and Burro Act provides for the Secretaries of the Interior and Agriculture to present a progress report to Congress on implementation of the Act, 30 months after the Act was initiated. The thirty month period ends on June 30, 1974. Accordingly, the next board meeting is scheduled in late March or early April in Washington, D.C., so the board may participate in delivering a summary of their actions to date in helping the Bureau of Land Management and Forest Service in implementing and administering the Act. This summary along with reports from the two agencies will be presented to the Secretaries at this spring meeting.

There being no other comments, the Board adjourned at 10:40 a.m., November 8, 1973.

I certify that I attended the proceedings of the National Advisory Board on Wild Free-Roaming Horses and Burros herein reported and that this is an accurate summary of the matters discussed and the recommendations made.

1/7/74
(Date)

C. Wayne Cook
C. Wayne Cook, Chairman

Mr. Pete Sanchez

BURROS and WILDLIFE in DEATH VALLEY

Mr. Sanchez has been with the National Park Service since 1958. He has worked in National Park areas in Idaho, west Texas, New Mexico, Alaska, and California. His first introduction to burro habitat was in Death Valley in 1961 and 1962. He returned to Death Valley in 1969. His work for the last two field seasons has been divided between Death Valley and Alaska, where he has been a member of a Departmental Natural Resources team studying Federal land selections totaling 80 million acres.

A graduate of the University of Utah, Mr. Sanchez holds the position of Resource Management Specialist at Death Valley National Monument, Death Valley, California.

BURROS AND WILDLIFE IN DEATH VALLEY

I Burro distribution and numbers

A. Burros range on 777 sq. mi. (497,000 acres) = 25.6% of monument lands.

B. Approximately 1,500 burros roam the monument:

Management Unit (Map 1)	Burros
1	125
2	600
3	100
4	455
5	220
6	-
7	-
8	occasional
9	-
10	recent entry (20±)
11	-

C. The largest concentration of burros/occurs in the Death Valley region (within and adjacent to monument lands). Over 40% of the wild burros in California range within Death Valley National Monument.

in California

D. Burro numbers continue to increase and their range is expanding. (Dotted lines, Map 2.)

II Area description

A. Topography

1. Elevations range from below sea level to over 11,000 ft.
2. Mountain ranges border 154 mile long Death Valley on the east (Amargosa Range) and west (Panamint Range).
3. Terrain utilized by burros includes alluvial fans, canyons, intermontane valleys, and rolling uplands.

B. Vegetative cover

1. Valley floor - primarily barren
2. Desert shrubs cover much of the land between sea level and 6,000 ft.
   a. Creosotebush-saltbush at lower elevations is sparse.
   b. Creosotebush-burrobush (Franseria) at middle elevations.
   c. Blackbrush and Grayia (hop-sage) at higher elevations are favored by burros.
   d. Pinyon-juniper woodland at 6,000 - 9,000 feet.
   e. Limber pine and bristlecone pine woodland at higher elevations above 9,000 feet. Interspersed with shrubs such as big sagebrush and true sages.

III Wildlife species, distribution, and numbers

A. Diversity

1. 51 native mammals
2. 36 reptiles
3. 3 amphibians
4. 6 fishes

B. Bighorn sheep are now of greatest concern because their numbers and habitat area are declining.

1. Present range now occupies 384 sq. mi. of non-contiguous enclaves.
2. Former range totalled 1,400 sq. mi. and included all mountainous areas of the monument.

	Bighorn Population		
Unit	Present	Pre-pioneer	Potential*
1	90	1,000	500
2	125	800	400
3	80	300	200
4	33	900	600
5	20	500	300
6	0	Transient	Transient
7	110	250	200
8	65	150	100
9	0	-	-
10	60	900	500
11	0	-	-
Totals	583	4,800	2,800

*After removal of human and animal competition and habitat restoration.

3. 1961 census = 915 bighorn.
   1972 census = 583 bighorn.

IV Impacts of burros on Death Valley ecosystem

A. The problem.

1. Burros have been introduced into an ecosystem operating under nominally natural conditions characterized by a normally marginal water supply, low annual forage production, severe climate (even for arid regions), and infrequent but devastating erosive forces (deflation, flashflooding). The system is unable to incorporate the addition of a new, large consumer-modifier.

B. Competition with native animals

1. Competition exists for forage, water, and space.
2. A few examples
   a. Bighorn used 3 key springs in the Cottonwood Mts. in 1939. As burro use of the area grew, there has been no significant use of these springs by bighorn in the last 25 years.

   b. A similar situation exists in Cottonwood Canyon (in the same mountain range) and is worsened by the presence of tre spass cattle.

c. Bighorn were known to utilize Eagle Spring in the Panamint Mountains in 1935. Burros entered the area in 1938 and bighorn use dropped to zero.

d. Bighorn fed and watered in Butte Valley in the early 1930's. By 1935 bighorn were replaced by herds of more than 200 burros.

3. Smaller mammals, especially rodents, are affected by the presence of large numbers of burros. Field observations suggest that further study is desirable to specifically determine the effects of habitat disturbance, especially destruction of burrows by trampling. Also reduced seed production.

4. Ecosystem health in the long term can be equated with species diversity.

C. Vegetation

1. Desert shrub-grassland communities contain the most burros. Both browse and grass species are utilized.

2. Ten usually abundant plant species were found to be absent in a 1971 survey of Wildrose basin in the Panamint Mts.

Missing species	Distance from Burro Watering Place
Stipa speciosa	3 miles
Hilaria jamesii	3
Oryzopsis hymenoides	8
Tridens pulchellus	8
Franseria dumosa	3
Amphipappus fremontii	1
Artemesia spinescens	6
Aster (Macheranthera) sp.	4
Sphaeralcea ambigua	7
Acamptopappus shockleyi	3

3. Similar conditions exist in the Hunter Mt.-Goldbelt-Cottonwood basin area (Unit 2) and Butte Valley (Unit 5). See map 1.

4. Many burro grazed areas are now shrubland instead of shrub-grassland. Ungrazed portions of unit 3 have shrub-grassland believed to be unmodifled vegetative cover. One area is used by a small herd (25±) of wild horses.

5. Vegetation which is not eaten is often damaged by trampling or uprooting during feeding. Repetetive feeding upon the same plant has resulted in heavy plant mortality in areas where burro concentrations are great.

6. Flowering and seed production has been severely reduced.

7. The existence of introduced burros exerts a great pressure on a natural ecosystem unadjusted to the presence of burros or similar animals.
   a. One conservative estimate of plant utilization:

      Using 318 lbs.* as the average weight and 9.7 lbs.* daily forage comsumption, the 1,500 burros in Death Valley consume 14,500 lbs. (7.27 tons) of food per day or about 5,310,000 lbs. (more than 2,650 tons) of food per year.

8. Relict plant communities may be affected by burros. Recent studies suggest burro damage (principally trampling) as probable cause for the low reproduction of Bristlecone pine on Telescope Peak in the Panamint Range.

9. At the opposite elevation extreme, formerly abundant alkali sacaton grass at Eagle Borax (Unit 4) has been so heavily eaten by burros that many plants are now dead. This has happened since 1969. Mesquite, saltbush, and Death Valley goldeneye (a local endemic plant) is also heavily utilized.

10. Creosotebush is being eaten in some areas of heavy burro concentration. This plant is rarely eaten by any animal. It is an indication of range depletion.

D. Soils
1. Trampling removes vegetative cover and permits accelerated erosion during infrequent but often severe storms.
   a. interplant areas are normally protected from wind and water erosion by a gravel cover of desert pavement which is disrupted by trampling.
   b. 97-100% of bare soil areas within 1 mile of water in the Wildrose area have been disturbed by tracking; 20-25% disturbed up to 5 miles away.
   c. 80-100% bare soil disturbance has been noted in the vicinity of Goldbelt Spring (Unit 2).

2. Soil compaction prevents or retards plant growth and forage production.

3. Burro trails on steep hillsides are numerous. Trails accelerate sheetflood and rillwash erosion. Locally soils are removed to bedrock. Thicker soils are subject to gullying.

E. Springs
1. Burros tend to congregate around waterholes. They generally do not travel more than 5 - 6 miles from water unless food is scarce.

2. Burros usurp available water at the expense of native wildlife.
   a. Most springs in the monument do not have flow volumes large enough to supply the needs of both burros and native animals.

3. Trampling of soils and vegetation around springs
   a. plugs flow arteries.
   b. reduces cover for birds and small mammals.
   c. increases water turbidity and siltation.

4. Ponded springs have become polluted with urine and feces.

5. Smaller animals are unwilling or unable to obtain water when dominant burros are present at a spring.

V Burro control activities

A. Burro control began in 1939.
   1. Burro population at that time was approximately 1,500.

B. Burros were removed from the mountains on the east side of Death Valley by 1942.
   1. Complete removal from the Amargosa Range reduced the total monument population to about 700 burros.

C. Between 1939 and 1968 official records show that 3,578 burros were removed from Death Valley, and may have been as high as 4,130 (if unrecorded trapper reports are added).

D. Burro control activities were curtailed in 1968.
   a. By 1972 the burro population had again risen to 1,500.

E. Live trapping resumed in July 1973.
   a. To date 42 burros have been removed by permit holders.

VI Management considerations

A. The basis for planning and management actions is the National Park Service Resource Management Policy for natural areas:

"Management will minimize, give direction to, or control those changes in the native environment and scenic landscape resulting from human influences on natural processes of ecological succession. Missing life forms may be reestablished where practicable. Native environmental complexes will be restored, protected, and maintained, where practicable, at levels determined through historical and ecological research of plant-animal relationships. Non-native species may not be introduced into natural areas. Where they have become established or threaten invasion of a natural area, an appropriate management plan should be developed to control them, where feasible."

B. A management plan and draft environmental impact statement is being prepared.

VII The proposed plan

A. The plan proposes exclusion of burros from Death Valley.

1. Continuing in-depth research adding to present knowledge regarding burro life history, habits, habitat requirements, management and control techniques.

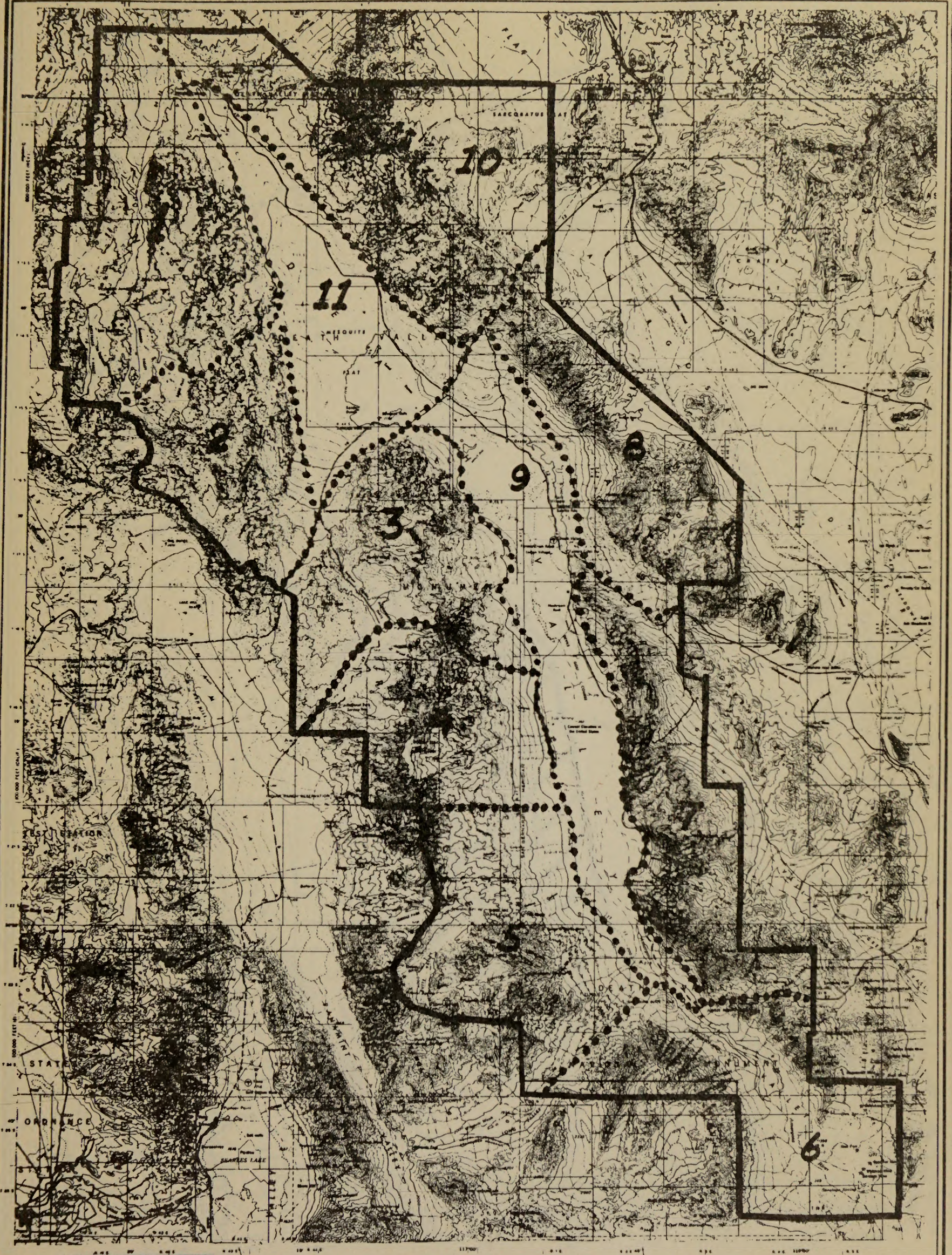
2. Implementation of a public information program to inform the public of the environmental effects of feral animal problems and to apprise the public of the progress of the project.

3. Fencing of portions of the monument boundary to preclude entry by animals ranging on lands adjacent to the monument.

4. Removal of burros within the monument by trapping and/or direct reduction as required.

5. Construction of barrier or drift fences as required within the monument to prevent repopulation of areas where animals have been removed, to protect springs and other water sources from damage by feral animals, and to reduce competition with native wildlife species.

6. Monitoring of vegetative recovery following exclusion of animals to determine need for restorative projects and control of exotic plants.


10
11
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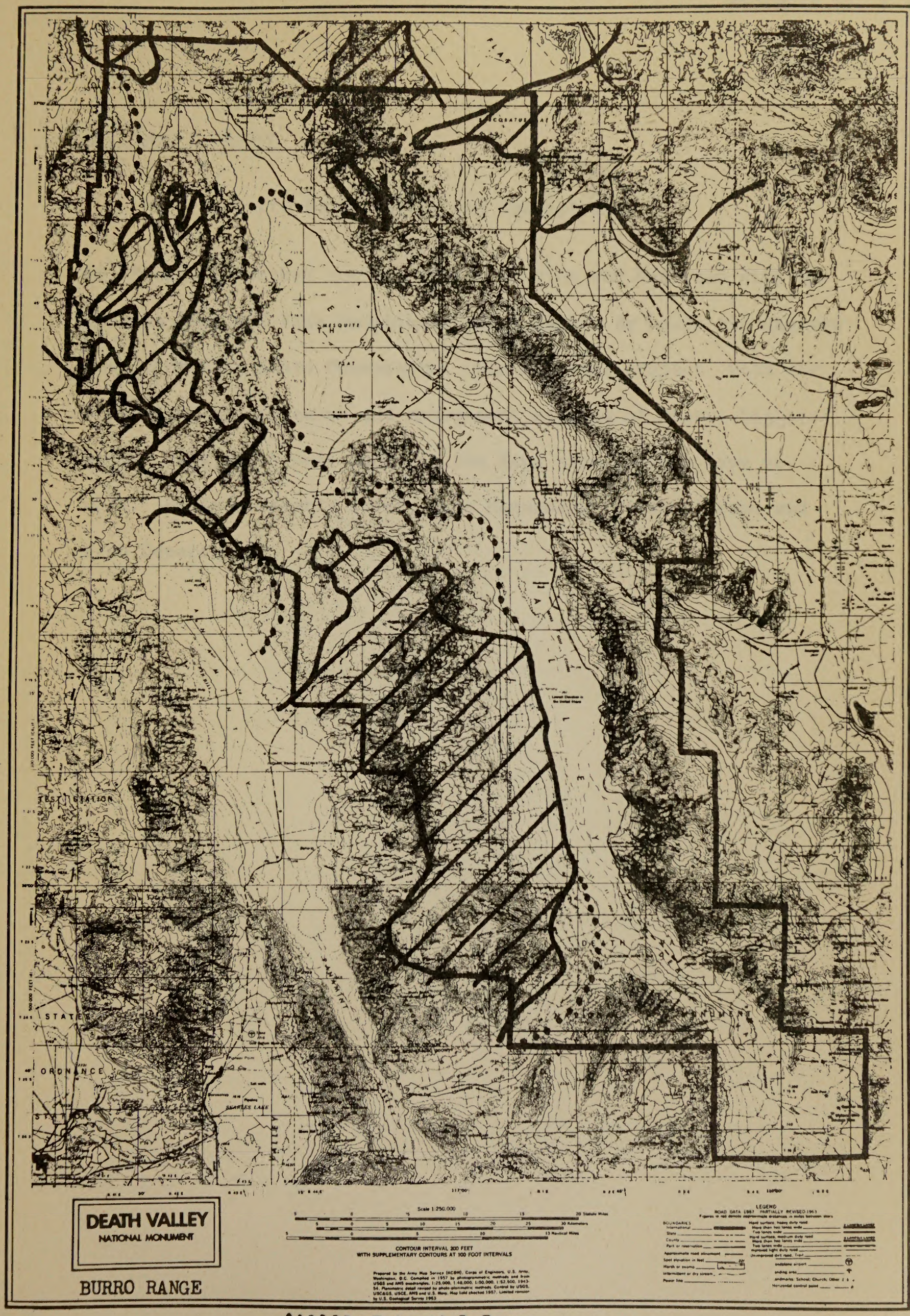
DEATH VALLEY
NATIONAL MONUMENT
BOUNDARY - MANAGEMENT UNITS
Scale 1:250,000
CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
LEGEND

MAP 2



●●●●● Potential Range

Mr. John P. Russo

Burro Food, Habits and Competition

Mr. Russo has worked for the Forest Service and has been with the Arizona Game and Fish Department since 1950. He holds two degrees both from Utah State University. His original project with the Department was research and management studies of desert bighorn sheep. Six years were spent in the Yuma area on this type of work. He is presently Chief, Game Management, Arizona Game and Fish Department.

BURRO FOOD HABITS AND COMPETITION

John P. Russo

It is difficult to speak of burro food habits and competition without some facts and figures to back up statements. There has been little written on the subject that is substantiated by extensive management and research. The information available on past studies is minimal and generally restricted to localized situations for a short period of time. Much of what is written can be left to interpretation.

In modern wildlife management practices wildlife management is associated with population stability. Management topics are widely discussed in terms of maximum population levels, range carrying capacity, population stabilization, competition elimination, interrelationship, and recently many phases that now involve the environment and ecology of the land and animal. One subject that continues to hit home is competition.

The degree of competition is all dependent upon the needs of the plant or animal to survive and the availability of the basic substances that contributes to its survival. We talk in terms of "no competition" when the flora and fauna are healthy, show good growth and reproduce their forms successfully. However, competition will exist even under the most ideal conditions, a fact that should not be overlooked. When two plants or two animals live on the same plane, they coexist; but, in order to survive they compete.

Experienced field biologists have contributed to a better understanding of problems brought about because of competition.

Bendt (1957) says "The most significant limiting factor affecting the sheep populations today (Grand Canyon National Park and Monument) involves the competition with feral burros for food and water."

Welles (1957) mentions "The question is often asked, what should be done to insure the status of the bighorn in Death Valley. The answer is simple: Remove all exotics and their influences from his biota and the bighorn will take care of himself....So the problem becomes one of how many burros and how much human encroachment can be permitted if a healthy status of the bighorn is to be maintained."

Weaver (1959) states "Burro can and do totally usurp water supplies. Natural and artificial tanks that depend on rainfall to replenish their water supply have been drained dry by burro, leaving no water for other animals.... In some instances the trampling of burros making heavy use of a spring may reduce or entirely stop the flow of water."

Sumner (1959) wrote "When a severely limited environment is invaded by a large, non-native animal with a fairly high breeding potential and no natural enemies, new pressures on the environment are inevitable. Some native plants and animals give ground. Such an invader is the wild burro of Death Valley, a region where the severe limitations of food and water are self-evident."

Sumner also cites Welles and Welles (1959) "The status of the feral burros is regrettably clear and has finally fallen into proper perspective....

his effect on forage, vegetation, wildlife in general, erosion control and watersheds is increasingly and alramingly clear. Some areas on the western slopes (of the Panamint Range) have already been so devastated that they will not recover in our lifetime."

In a later publication Welles and Welles (1961a) modified their position to some extent. They mention "Further research will be required to determine the exact ecological impact of the feral burro on all the park biota. While our work has proved the burro to be much less of a villain with respect to the bighorn than had been feared in earlier years, it is not suggested that, from an ecological standpoint, he is a desirable part of the Death Valley biota."

Browning (1960) collected 20 burro stomachs to determine forage preferences of burros in the Cottonwood Canyon, Death Valley National Monument. The burros were collected in the spring and in the fall. Browning mentions, "There is a significant shift in the diet of the burro between the spring and the fall. Forbs comprised almost 65 percent of the spring foods and several stomachs were completely filled with green forbs. . . . browse made up over 75 percent of the food found in the fall diet and the few forbs present were unidientified dry stem fragments. Grass occurred in over half of the stomachs examined and made up 10 percent of both the spring and fall diets."

McMichael (1964), in his study concluded that during the summer sheep and burros inhabit the same areas. Browse plants are heavily hedged

from overuse. During fall, winter and spring the animals are well enough dispersed and forage is adequately abundant, eliminating competition. McMichael further points out that in his study area where water is abundant there is no serious conflict for water. However, he points out that where water is scarce the feral burro can deplete the supply.

Farrell (1973), in his study examined other dimensions and sought to learn what effects feral burros had on waterhole use and desert environments. Farrell concluded that generally feral burros are nocturnal in watering and rely on permanent water more in the spring and summer months than in the fall and winter. He also mentions that minimal damage is done to surface terrain around waterholes and along trails, although soil compaction and crusting was evident in a few areas, as was contour trailing. Farrell does concede that some of the browse plants were damaged by feral burro from overutilization wherever the animals concentrated.

McMichael's study was conducted in the Warm Springs Canyon area of the Black Mountains. Farrell's study was done near Alamo Lake State Park with the study area centered at four waterholes, two man-made which are permanent waters and two natural tanks which are seasonal and dry up during the critical summer months. Farrell's study area has been highly influenced by the developed Alamo Lake, which relieves the impact of feral burros into the adjacent watering areas.

Samples of stomach contents were taken and compared from eight sheep and nine burros by McMichael. The samples were analyzed to

determine food preferences. Sheep stomachs sampled were from animals taken during the desert bighorn hunt season in December. The feral burro samples came from animals collected in February, April, May and July.

Laboratory analysis of the stomachs revealed the feral burros preference for those periods to be 1 percent grasses, 11 percent shrubs and 88 percent forbs. Sheep stomach contents showed 33 percent grasses, 39 percent shrubs and 28 percent forbs.

This does not reveal the true competitiveness between wildlife and feral burros because of the short-time study conducted in a relatively small area.

Competition is generally accepted when it involves the indigenous species of the land. Often in such cases, game management can be applied to control competition. Competition with wildlife is accepted, sometimes begrudgingly, where it involves the land use policy of an agency to utilize range for domestic stock. Competition is not accepted when feral exotics roam at will without any control or management to the destruction of a native species and their environment. This represents unnecessary competition.

Welles and Welles (1961) mentions, "Without controls the burro population would logically be expected to exceed the carrying capacity of the range within a very short time. At this point a drought would turn a critical condition into an emergency, and under emergency circumstances, the burro becomes a desperate competitor with other wildlife species.

This would result in direct competition for water, fighting other animals away from it and under stress of battle probably fouling what is left."

Several of the aforementioned authors have indicated that direct competition exists. Feral burros utilize many of the same forage plants as the desert bighorn sheep and the desert deer. They utilize many of the same water places and inhabit much of the same habitat. They seek shade in caves and under ledges that have been used by deer and sheep long before the first burro was turned loose by some thoughtless desert dweller.

If feral burros are allowed to roam at will and utilize forage and water, they must be controlled to insure the proper conservation of the range. The Game Department is expected to manage its game herds so as not to damage the range resource. The stockman is compelled to maintain stock within limits of the range potential forage growth to insure a renewable and productive range.

The authors cited have indicated that competition for food and water is evident. Although the study by McMichael (1964) was confined to a given area for a short period of time, he showed that competition does exist. Many of the plants listed as utilized by feral burro by Browning (1960) and McMichael are plants utilized by desert bighorn sheep and desert deer. The availability of these plant types and the number of animals inhabiting an area governs the degree of competitiveness between the indigenous species and the feral burro. Certainly, where water is

scarce, a herd of feral burros can deplete the supply rapidly. This has been seen numerous times during my work with desert bighorn sheep. When the water supply is gone, the feral burros move off. Sheep, although placed in additional stress, can fend for themselves. Deer will generally stand around the dried waterhole and unless rain occurs, the deer will die.

Bendt, R. H. 1957 — Status of bighorn sheep in Grand Canyon National Park and Monument. Desert Bighorn Council Trans. 16-19.

Browning, B. 1960 — Preliminary report of the food habits of the wild burro in the Death Valley National Monument. Desert Bighorn Council Trans. 88-90.

Farrell, J. E. 1973 — Behavioral patterns of feral burros as influenced by seasonal changes in western Arizona. M of Ag. Thesis. 34pp. Arizona State Univ.

McMichael, T. J. 1964 — Studies of the relationship between desert bighorn and feral burro in the Black Mountains of northwestern Arizona. MS Thesis. 38pp. Univ. of Arizona.

Sumner, L. — Effects of wild burros on bighorn in Death Valley National Monument. Desert Bighorn Council Trans. 4-8.

Weaver, R. A. 1959 — Effects of burro on desert water supplies. Desert Bighorn Council Trans. 1-3.

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Welles, R. E. & F. B. Welles 1959 — The bighorn of Death Valley (Ovis canadensis nelsoni). MS Thesis. 223pp.

_____ 1961 — The feral burro in Death Valley (Summary of a report). Desert Bighorn Council Trans. 32-33.

_____ 1961a — The bighorn of Death Valley. Fauna Series No. 6. National Parks. 242pp.

Arizona Game & Fish Department
November 7, 1973
Prepared for: National Advisory Board on Wild Free-Roaming Horses and Burros

Bill Radtkey

BURROS ON PUBLIC LANDS

Undergraduate - Humbolt State College

Graduate - University of Montana

Bill Radtkey, Wildlife Biologist in the BLM California State Office, has worked in Idaho Falls, Idaho and Miles City, Montana, prior to his present position in Sacramento.

Gadsky

NATIONAL WILD HORSE AND BURRO BOARD
Lake Havasu City, Arizona
November 7, 1973
BLM California State Office

Two things:

1) Summary of happenings which delayed management.

2) A proposed start for management.

Since the legislation was passed regarding the management of the wild burro, nothing has been done by BLM in California which can be reported as actual management There have been some inventories conducted which have provided some data on numbers, distribution, and conflicts with other resources.

For several years the burro has had some type of "management" or protection in California. Between 1953 and 1957 the State of California enacted legislation protecting the burros from indescriminate killing. Permits were issued to capture or kill burros. The only significant results from this permit system were from livestock ranchers who controlled burro populations in their grazing areas.

Many permits were issued to individuals to capture one or two burros for personal use. If these animals had been captured it probably would have had some effect on the burro populations. But in the period from January to June 1970, 190 permits were issued to capture 420 burros and only five burros were reported captured during the same period.

In 1967, the BLM issued a wild horse and burro policy statement. This statement recognized the burro as having some public value and proposed the development of management plans which would preserve the burro, consistant with other multiple use objectives. This policy was quite similar to the

requirements of the current burro legislation.

Also in 1967, it was proposed that a cooperative management effort be directed toward the wild burro. This effort involved the California Department of Agriculture, who was responsible for issuing permits to capture and kill burros, California Department of Fish and Game, Bureau of Sport Fisheries and Wildlife and the Bureau of Land Management.

As a result a cooperative agreement was signed and the agencies developed common objectives for the management of burros. The next step was to develop an outline of needs and methods to accomplish these objectives. Some of the work has been done and some is in various stages of progress. However, several things have happened which have delayed the completion and implementation of the management plan.

First, and probably the most important, was the initiation of the BLM's planning system. This system provides that single activity or resources management plans are generally not developed until all other resources in the area are inventoried, analyzed and conflicts between the various resources are resolved.

Along with this was a limitation of funds and manpower necessary to implement new management programs. Nearly all new money was being directed toward carrying out the requirements of the planning system.

The California desert area, where nearly all the California burros are located, was identified as needing a special planning effort. This led to the

formation of a BLM Desert Planning Staff. This group has been collecting data for the California desert and has recommended some priorities for management. The first Priority, based on an interim management proposal, is to control the use of recreational vehicles on the desert.

In 1971, with the passage of the current burro legislation, the BLM was instructed to use our existing planning system to develop management plans for the wild burro. This has acted to delay some management proposals developed for other resources. An example is management plans developed for the desert bighorn sheep. One proposal in the bighorn plan was to fence certain springs and exclude the burro. Without water the burros would be effectively eliminated from competing with the bighorn.

At some stage here it might be easy to blame our problems on the planning system or the requirements of the wild free-roaming horse and burro act. In reality the problem is the shortage of money and manpower necessary to inventory all the resources and develop plans necessary for management. The Burro just happens to be one more resource added to our growing list of things that need management. Another problem is the nature of the beast. He has been portrayed as mischievious, unaffected and destructive. This image is probably true, because left to his own resources the burro has a knack for destroying everything around him.

We are developing an outline of a burro management plan. The objectives are consistent with the act.

The initial goal will be reaching the population levels and distribution of December 1971. In some cases it may be necessary to reduce the population below that level because of deteriorated habitat conditions. The actual methods of control haven't been determined but there are two general methods available:

1. Live trapping and removal.
2. Killing the animals.

The first is by far the most acceptable to the public but is also very expensive. Another problem is: Finding and maintaining a "market" for live animals. Remembering that this will be an annual, forever, type program.

Regardless of how we carry out the management, the important thing is that we start immediately. Each year we delay makes the initial task of population control more difficult. It also poses the threat of destruction of the habitat of native wildlife and the burro.

Recognizing the requirements of the act to develop management plans using the planning system, but also recognizing that we have already delayed two years since the act was passed.

I would like to propose an interim type management plan designed to prevent long-term or irreversible damage on the most severly over-populated areas. We have fairly good data on burros. We can use this to identify where damage is occurring either to burro habitat or other resources.

Further analysis could establish some priority for areas to be considered. Many of the burro herds in California are dependent on one or two sources of water and are generally quite local. This will allow us to work on a small segment of the total burro population.

There is one part of our planning system which can't be bypassed. This is the public information portion. This gives us the opportunity to explain the problem, how it is affecting other resources and our proposal to correct the problem.

Under our present funding limitations, this program would have to be carried out with a minimum expenditure of money.

In our current budget nearly all of our Horse and Burro money was used to train field men to enforce the provisions of the Act.

The final analysis of this shows it as an attempt to justify killing burros in areas where permanent damage is occurring.

If we are required to wait until a management plan is developed for the entire California Desert, we will be facing an additional two or more years of delay.

Richard A. Weaver

Census and Management of Burros

Dick Weaver is an associate wildlife manager and biologist with the California Fish and Game Department. He has spent 25 years with the Department mostly in the desert regions studying wildlife and burros.

Mr. Weaver's presentation was by colored slides showing desert terrain depicting both desert bighorn sheep and burro habitat. Excellent colored slide scenes were shown taken in the Chemehuevis, Wipples and Turtle Mountains. Mr. Weaver stressed the competition for food, water and space in the desert, not just between burros and bighorn, but competition exists among all wildlife species.

He stated the bighorn is presently protected by law and no hunting is allowed. Some poaching of the bighorn occurs within the State. People occupying water sources will displace bighorn sheep. He stated once the bighorn leave an area there is no tending to reoccupy an area. They do not pioneer or seek new areas as burros or other wildlife might do.

Mr. Weaver handed out a report covering the period of July 1, 1968, to June 30, 1972, showing burro populations in different areas of California and where the burro might influence bighorn sheep habitat. The report follows on the next page.

JOB FINAL REPORT

State: California

Cooperators: U. S. Bureau of Land Management, U. S. Park Service, California Department of Agriculture

Project No.: W-51-R-17 Project Title: Big Game Investigations

Job No.: I-5 Job Title: Feral Burro Survey

Period Covered: July 1, 1968 - June 30, 1972

SUMMARY:

Seven of the 14 bighorn study areas in California have free-ranging feral burro populations. Burros have created a problem in each of these areas. They compete directly with bighorn for food, space and also water if it is in short supply. Burros have caused devastating damage to the vegetation and soil which has had a detrimental effect on the entire biota.

With the knowledge gained during the bighorn investigations the 1968 burro inventory was revised. The present burro population is estimated at approximately 3,400 animals in the state.

BACKGROUND:

Feral burro populations have become established in many widely separated areas of the California desert regions. These animals are the descendants of those that escaped from, or were allowed to range free by, the early day miners. Burro damage to the desert ecosystem has been recognized for many years by knowledgeable field biologists. Burro concentrations cause serious loss of vegetation and soil erosion and they may totally usurp a small water supply vital to wildlife. The feral burro has been protected by laws enacted by the California Legislature dating back to 1953.

In 1971 Public Law 92-195 places wild burros (as well as horses) on public land under the jurisdiction of the Secretaries of the Interior and of Agriculture. It is now a federal offense to harass, capture, kill, sell or process into any commercial product these animals. The maximum penalty is a fine of $2,000 and imprisonment for one year. The Act of 1971 also provides for the establishment of a citizens' advisory board to make recommendations for management and protection of wild burros and horses.

Because burros have an effect on the welfare of bighorn sheep, it was decided while making bighorn investigations to delineate the burro range and abundance.

PROCEDURES:

1. During the course of bighorn investigations make observations on burro abundance and distribution.

2. Map the burro distribution.

3. Document where possible the impact of burro on the habitat and their effect on wildlife.

4. Compile a bibliography on feral burro.

5. Revise the 1968 burro inventory made in cooperation with National Park Service, Bureau of Sport Fisheries and Wildlife and the Bureau of Land Management.

FINDINGS:

A summary for each of the bighorn study areas with feral burro populations is given below:

Northeastern San Bernardino County It was found that burros have extended their range in this area within the past 15 years. There is a visible depletion of grass in these areas of extended range. At some springs bighorn use has declined during this period. Most bighorn habitat that has had a heavy burro population for years does not now have a resident bighorn population. Bighorn and burros, and deer and burros were observed at springs. The burros were dominant in each case and deer or bighorn would not drink while burros were in the vicinity of the spring. Approximately 600 burros inhabit this area.

Eastern Imperial County: Extreme competition between bighorn and feral burros exists in this area, especially for the available water. Heavy use of tinajas by burros rapidly depletes the water supply and deprives the wildlife living in the area. Once the tinajas are dry the burros will move to the Colorado River. Bighorn by their nature avoid the dense brush areas adjacent to the river and are reluctant to leave the escape terrain afforded in the mountains.

Northwestern San Bernardino and Southwestern Inyo Counties: This area contains two large military bases. Fort Irwin is free of burros. China Lake Naval Weapons Center has a very heavy burro population. It is of interest to note the difference between the Avawatz Mountains of the Fort Irwin area and the Argus Mountain range of the China Lake area. The Avawatz Mountains have a good grass cover, a thrifty bighorn population, and no burros. The Argus Mountain range shows evidence of severe overgrazing and an absence of perennial grasses. No bighorn were found during the investigation and the population is declining with perhaps fewer than 15 bighorn remaining in the range. Burros are competing with wildlife mainly for food and space, as water is available and adequate. Trampling of the vegetation in the vicinity of the spring is prevalent and is causing soil erosion that is detrimental to the entire ecosystem. In the 1971-72 Progress Report on the Wildlife Management Plan for the China Lake Naval Weapons Center, the Department reports the following conditions: Field observations in 1972 indicate that horses and burros are increasing at a rather rapid rate. On the night of June 23, 1972, a total of 54 burros were observed between the bottom and top of Mountain Spring Canyon. There were 19 colts of the year among these animals. Overuse by feral animals has visibly changed the biotic communities in the Etcheron Valley, Cole Flat, Tennessee Springs, Mariposa Spring, Mustang Spring, Lost Cabin and Dead End Cabin Spring areas. Burros alone have virtually denuded Moscow Canyon, Wilson Canyon, Mountain Springs Canyon and Burcham Spring areas of annual vegetation plus much of the perennial vegetation.

Northern Inyo and Southern Mono Counties: The desert portion of Inyo County was designated a burro sanctuary by the California Legislature in 1957 (Section 10930, Fish and Game Code). Saline Valley and the lower elevations of the Inyo, Last Chance, Saline, and Nelson ranges that surround the valley and all of Hunter Mountain has long had a heavy burro population. The lower elevations have been wintering areas for bighorn in the past as proven by the presence of rock Indian hunting blinds near Upper Warm Springs. Bighorn do use the foot of the mountain ranges of similar topography such as the Grapevine Mountains in Death Valley where there are no burros. The conflict is not obvious in the Inyo Mountains because at the present time there is very little overlap of burro and bighorn ranges. Burros are confined to the lower elevations by the nearly vertical topography. A remanent bighorn population of about 15 head range above the burros. Dodd Spring area is one area where some information is available dating back to 1938 when U. S. Park Service naturalists made a pack trip to these springs. Here over the years as burro numbers have increased the perennial grasses have been eliminated and a once important bighorn area has been reduced to seasonal use only. Bighorn are no longer resident to the Dodd Spring area but will travel to the spring when stressed for water.

Southeastern San Bernardino County: Competition between bighorn sheep and feral burros is evident primarily in the areas adjacent to the Colorado River. Severe competition was observed in the Chemehuevi Mountains. Burros are continually increasing their range and in the last few years have extended their range west of Highway 95 where formerly no burros existed. Burros compete directly with sheep for food, water and space. Areas where burros have ranged are severely utilized and the perennial grasses so important to bighorn have been almost eliminated. During wet periods burros move into sheep range and compete directly with sheep for food and water. When conditions become severe and the tinajas go dry the burros retreat to areas adjacent to the Colorado River. The bighorn sheep, however, are not using the river and are therefore forced to survive on depleted range and water conditions. This results in a smaller sheep herd. This investigation revealed the most serious competition is for available water.

One area where burro influence appears to have contributed to sheep loss is the Whipple Mountains. Sheep habitat exists directly across the Colorado River in the Buckskin Mountains. A comparison of the two areas is nearly identical except for burro numbers. On the Arizona side burros are not abundant and sheep are known to drink from the Colorado River. On the California side burro numbers are high and sheep have never been seen to use the Colorado River. Burros are dominant and bighorn sheep will not challenge them even for water. Burro range in the Whipple Mountains is extensive and no sheep have been seen there since 1956.

In the Chemehuevi Mountains burros are considered the reason that sheep are not seen from the river on the California side. The sheep that remain in this range are severely stressed by burros usurping the water and depleting the forage. Burros are also established in the Fenner Springs area of the Piute Mountains. This population had its origin from one pregnant female burro which escaped from nearby Mountain Springs Station in 1952. No apparent competition with bighorn exists in this area as long as the burros limit their range.

Clark, Kingston and Nopah Mountain Ranges: Competition between bighorn and feral burros is evident in the eastern portions of the Clark range. This competition seems slight because they occupy different terrain, but the lack of bighorn observed

at the waters may be because of cattle and burro use there. Perennial grass is absent from areas of cattle or burro concentration but quite abundant elsewhere on these ranges.

Three burros have been released to roam free on the range in the Kingston Mountains and may present a problem in the future.

Burros and horses roam free in Chicago Valley and Pahrump Valley and to the lower elevations of the Nopah Mountains, but since there is no source of water for them the use is seasonal and light and competition with wildlife is not evident.

Death Valley and adjacent areas: Man has caused a serious problem by allowing his trusty burro to roam freely and establish wild populations. This has long been recognized as a problem by wildlife biologists.

Many of the springs in the Death Valley area have a good strong flow and competition for water is not as serious as elsewhere in the desert. Bighorn and burros will water at the same spring with no display of animosity. The burro is the dominant animal and bighorn will wait for burros to leave or bighorn will leave if burros come while they are drinking. Therefore, continual occupancy at the spring by burros is a disturbance that bighorn cannot tolerate.

The more serious problem is a depletion of the vegetative cover and forage near springs. As described for Dodd Springs above, the lack of forage near some springs has resulted in springs no longer supporting resident bighorn populations, but in seasonal use only, thus forcing animals to travel some distance from adequate forage to water.

There is some degree of coexistence between burros and bighorn on some ranges, but the best bighorn range and most thrifty bighorn populations are free of burros. Burros have increased their range and numbers since 1960. Blackwater Spring is a case in point. This spring was important to bighorn and free of burros at that time. Recently burro use at the spring has been heavy and fresh bighorn sign cannot be found. Trapping of burro for pets or beasts of burden was conducted in the National Park for a time during the 1950s. This did to a certain extent control burro numbers in the areas of the trapping operation.

The National Park Service developed a burro management plan for Death Valley National Monument. This plan was reviewed by the Department of Fish and Game and others. No part of the plan has been implemented to date. The park also established transects in the Wildrose area and compiled quantitative data on plant composition and soil disturbance in relation to burro use.

Investigations were made primarily in the bighorn habitat and not all of the burro range was covered. The burro distribution in these bighorn study areas was mapped. The maps are attached. The total population estimate is a revision of the 1968 inventory conducted in cooperation with the Bureau of Sport Fisheries and Wildlife, Bureau of Land Management and the National Park Service. The revision is based on knowledge gained during the bighorn investigation. An estimate for feral burros is extremely difficult to arrive at due to roughness of terrain and the difficulty in distinguishing burros from their background. Therefore, the estimate is based to a large extent on the abundance of signs observed. If it is in error, it is probably on the conservative side.

An independent study on the social behavior of feral burros is being conducted in the Wildrose area of Death Valley National Monument. When this information is available, it may be valuable in developing future management plans for the ranges inhabited by burros.

Of more importance is a study conducted by the National Park Service to quantitatively document plant damage and soil disturbance caused by burros. Point transects were made on two routes reaching about 5 miles from the water. At each point, plants, litter, or bare ground was recorded and disturbance noted. Also included was the amount of use to the plants along the transect. Radiating out from the water tank the vegetation and soil show an abundance of use and disturbance. The plants are either eaten or trampled while the disturbed soil is subject to wind and water erosion. Feral burros in the Wildrose area have virtually eliminated certain species of plants for one or more miles from the water, including four species of grasses. Five miles away from water grasses have been seriously reduced. The study concludes that burros are not only damaging the plant community but they also affect the animal community dependent on the plants.

The following estimate and map shows approximate burro numbers and distribution in California. The U. S. Forest Service independently estimates over 200 head of burro range on U. S. Forest Service lands in two national forests, the Inyo and the San Bernardino Forests. The U. S. Park Service estimates 1,350 burros are in the Death Valley National Monument. These estimates are included in the inventory. The balance range largely on the public land administered by the Bureau of Land Management. Approximately 100 range on Bureau of Land Management land in Lassen County and are not indicated on accompanying map.

Attached is a list of springs where it was determined that burros are competing with bighorn. Not included in this list are areas adjacent to the Colorado River and areas within Death Valley National Monument.

Also attached is a second list of springs used by burros but where bighorn do not regularly use the water source. Bighorn use could be reestablished at these sites if burro numbers were reduced and controlled. Reintroduction of bighorn might be necessary at the sites that have not been used for many years.

RECOMMENDATIONS:

Public Law 92-195 is a clear mandate to preserve the wild burro. In preserving they must also be managed. Therefore, management plans that will preserve the wild burro and the range are the first step in any program directed toward this animal. Sample burro management plans have been developed by the Department and the Bureau of Land Management but have not been implemented because the legislation was pending or directives in compliance with the legislation have not been formulate

Further studies on the burro distribution, population, food habits, behavior or other general life history aspects of burros are not needed for sound management plans. Research could aid in rehabilitating the ecosystem after burro numbers

have been reduced. An informed public is necessary to secure the sanction of the public of any burro management program. The Department is ready to assist in developing, gaining support for, or implementing management plans of any agency.

Prepared by _____ Date _____
Richard A. Weaver
Associate Wildlife Manager-Biologist

Approved by _____ Approved by _____
W. G. Macgregor
Big Game Coordinator

Eldridge G. Hunt, Chief
Wildlife Management Branch

Feral Burro Inventory
(revised 1972)

Map Area	County	Mountain Range	Area	Estimate
1	Inyo	Inyo	Marble Canyon	25
2	Inyo	Last Chance	Sand Springs	25
3	Inyo	Inyo) Nelson) Saline)	Saline Valley (entire watershed)	350
4	Inyo	Panamint	Tin Mountain	100
5	Inyo	Panamint	Cottonwood) Hunter Mt.)	500
6	Inyo	Panamint	Tucki	100
7	Inyo	Panamint	Wildrose	100
8	Inyo	Panamint	Butte Valley	350
9	Inyo	Panamint	Panamint Valley (east side only)	150
10	Inyo	Argus	Panamint Spring	25
11	Inyo	Argus) Coso)	China Lake) North Range)	250
12	Inyo) San Bernardino)	Slate) Brown Mt.) Eagle Crags)	China Lake) Mohave B Range)	200
13	Inyo	Nopah	Nopah Mts.) Chicago Valley)	25
14	San Bernardino	Lava	Lava	10
15	Kern	Sierra Nevada	Cache Peak	15
16	San Bernardino	Kingston	Kingston	3
17	San Bernardino	Clark) Mesquite)	Clark) Mesquite Mts.)	50
18	San Bernardino	) Kelso))	Kelso Peak) Old Dad Mt.) Cima Dome)	75
19	San Bernardino	Providence) New York) Granite)	Providence Mt. Area	525

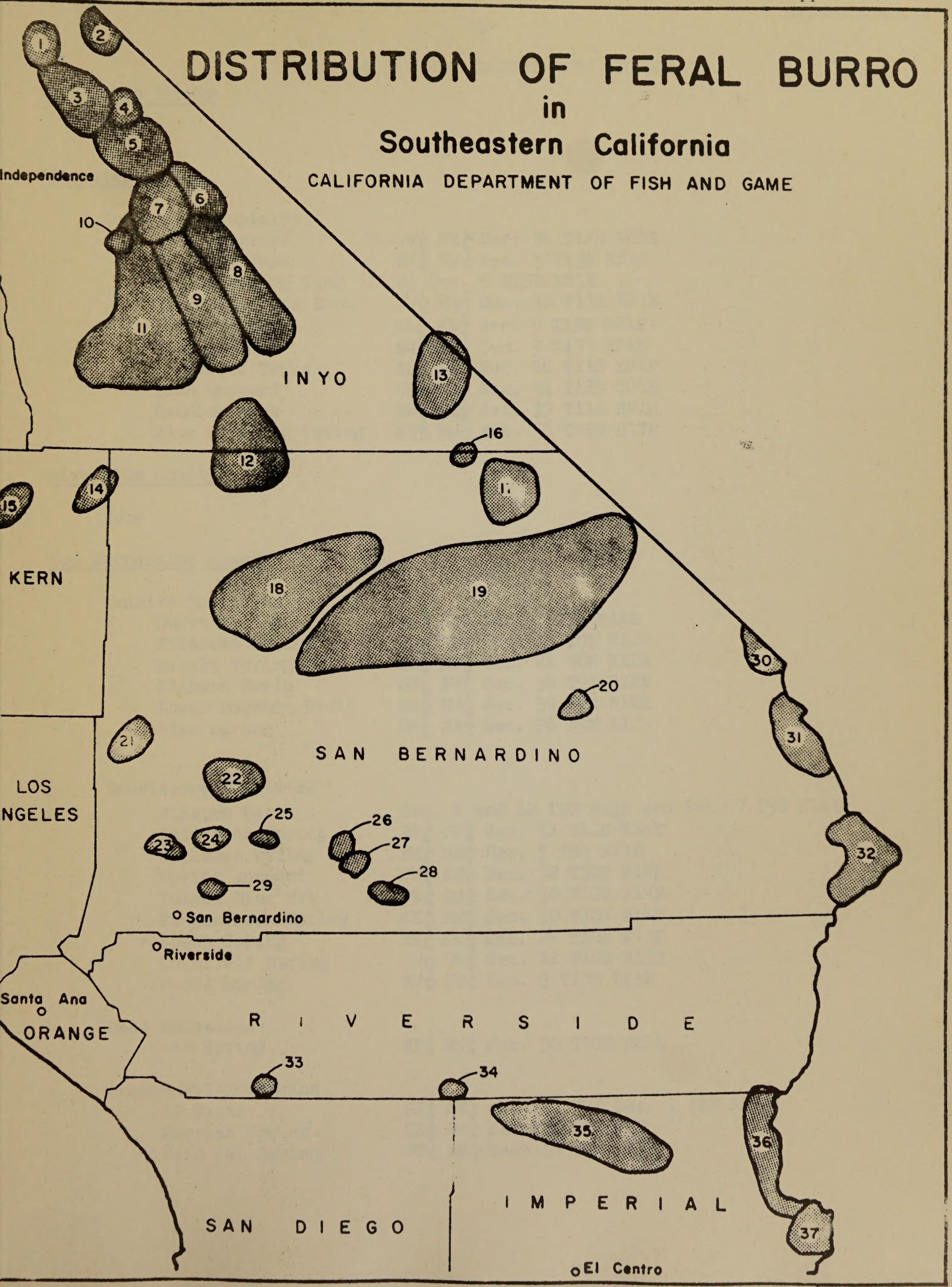
Appendix No. 4

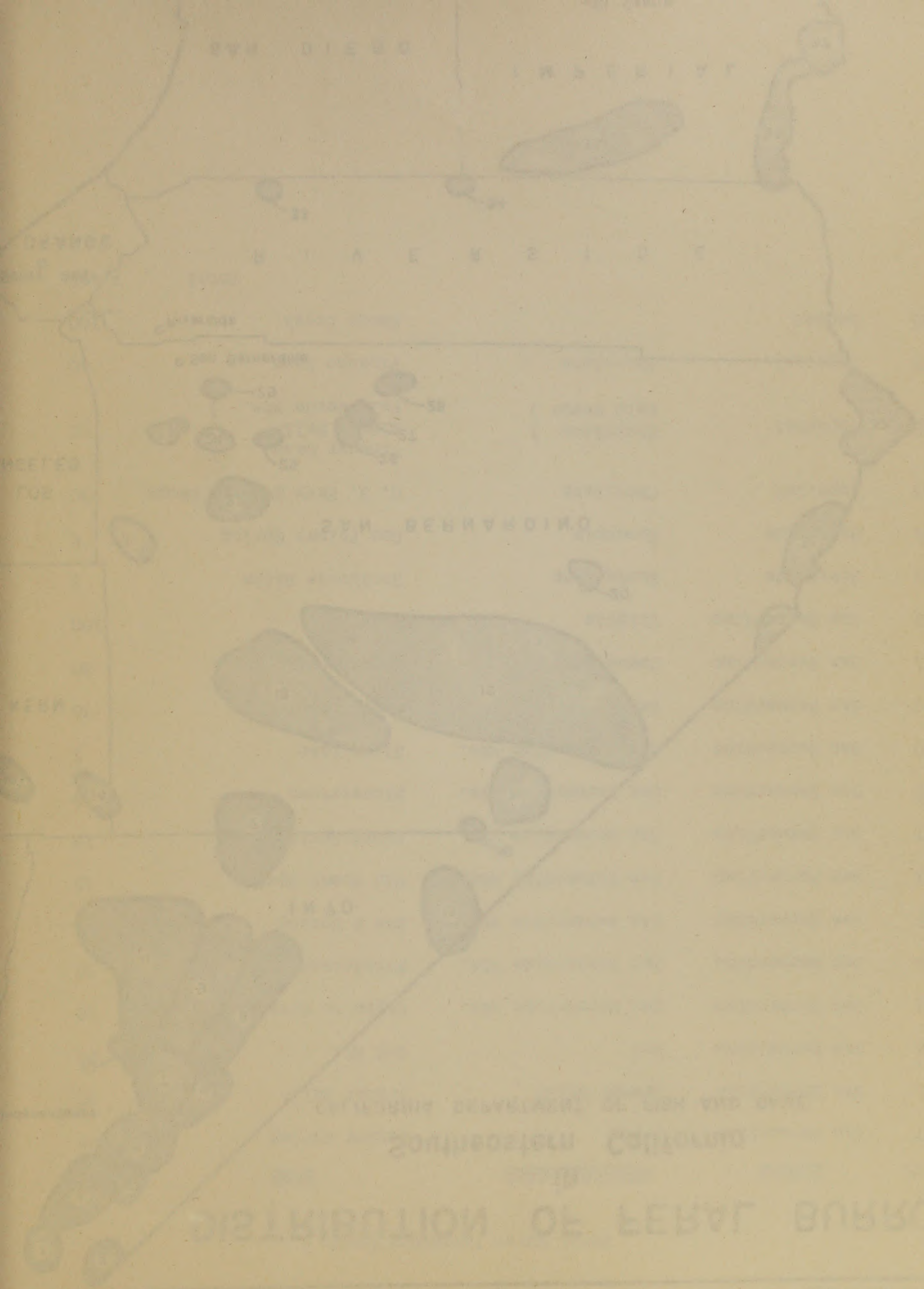
Feral Burro Inventory (cont.)

Map Area	County	Mountain Range	Area	Estimate
20	San Bernardino	Piute	Fenner Spring	25
21	San Bernardino	Kramer Hills	Kramer Hills	20
22	San Bernardino	Ord	Ord Mts.	20
23	San Bernardino	San Bernardino Mts.	Cajon to Crestline	10
24	San Bernardino	San Bernardino Mts.	Rattlesnake Mt.	10
25	San Bernardino	San Bernardino Mts.	Box S Spring	2
26	San Bernardino	San Bernardino Mts.	Old Woman Spring	15
27	San Bernardino	San Bernardino Mts.	Mound Spring	15
28	San Bernardino	San Bernardino Mts.	Pioneertown	3
29	San Bernardino	San Bernardino Mts.	Slide Lake	5
30	San Bernardino	Dead	Dead Mts.	70
31	San Bernardino	Chemehuevi	Chemehuevi	80
32	San Bernardino	Whipple	Whipple	100
33	Riverside	Santa Rosa	Rockhouse Basin	3
34	Riverside	Orocopia	Dos Palmas Spring	4
35	Imperial	Chocolate	U. S. Navy Gunnery Range	30
36	Imperial	Chocolate) Palo Verde)	Vinegar Wash) Midway Well) Palo Verde Mts.)	50
37	Imperial	Chocolate	Picacho Peak	40
38	Lassen		Smoke Creek	100
			Total	3,476

DISTRIBUTION OF FERAL BURRO
in
Southeastern California

CALIFORNIA DEPARTMENT OF FISH AND GAME





AREAS WHERE BURRO COMPETE WITH BIGHORN

San Diego County

None

Imperial County

Chocolate Mountains

Tank, unnamed	SW¼ NE¼ Sec. 34 T12S R21E
39 Stick Tank	SW¼ SW¼ Sec. 3 T13S R21E
Willow Spring Tank	N½ Sec. 5 T13S R21E
Indian Writing Tank	NW¼ NW¼ Sec. 10 T13S R21E
Tank unnamed	NE¼ NE¼ Sec. 9 T13S R21E
Tank unnamed	NW¼ NW¼ Sec. 9 T13S R21E
Arrowweed Tanks	SE¼ SE¼ Sec. 20 T11S R21E
Tank unnamed	NW¼ NW¼ Sec. 31 T12S R21E
Rainbow Tank	NW¼ NE¼ Sec. 35 T11S R21E
Blue Mountain Spring	NE¼ NW¼ Sec. 28 T12S R17E

Riverside County

None

San Bernardino County

Granite Mountains

Burro Spring	NW¼ SW¼ Sec. 7 T8N R12E
Sidedraw Spring	SW¼ NE¼ Sec. 15 T8N R12E
Basalt Spring	NE¼ NE¼ Sec. 22 T8N R12E
Bighorn Basin	SE¼ SW¼ Sec. 35 T9N R12E
Lower Bighorn Basin	NE¼ NW¼ Sec. 35 T9N R12E
Dike Spring	SW¼ NE¼ Sec. 26 T9N R12E

Providence Mountains

Winston Basin	Sec. 1 and 12 T9S R13E and Sec. 7 T9S R14E
Goldstone Spring	SE¼ SW¼ Sec. 31 T10N R14E
Halloman Spring	NE¼ NE¼ Sec. 5 T9N R14E
Spring unnamed	SW¼ SE¼ Sec. 32 T10N R14E
Vulcan Mine Pit	SE¼ SW¼ Sec. 30 T10N R14E
Finger Rock Spring	SE¼ NW¼ Sec. 30 T10N R14E
Sheep Spring	NE¼ SW¼ Sec. 24 T10N R13E
Cornfield Spring	NW¼ SW¼ Sec. 12 T10N R13E
Woods Spring	NW¼ SE¼ Sec. 3 T11N R15E

Dead Mountains

Red Spring	NE¼ NW¼ Sec. 30 T10N R22E

Chemehuevi Mountains

15 Tanks	SW¼ NW¼ and NW¼ SW¼ Sec. 1 T6N R23E
Parrish Spring	SE¼ SW¼ Sec 22 T6N R23E
Wild Cat Spring	SE¼ NE¼ Sec. 15 T6N R23E

AREAS WHERE BURRO COMPETE WITH BIGHORN (cont.)

Inyo County

Hunter Mountain Area
Dodd Springs)
Grapevine Canyons) unsurveyed

Panamint Mountain (West Side)
All springs

List of Watering Sites Used By Burros
But Show No Evidence of Regular Bighorn Use

Imperial County

Chocolate Mountains

Carrizo Spring or Blue Tank	T13S R22E
Arrowweed Spring	NE¼ NE¼ Sec. 28 T11S R21E
Tank, unnamed	NE¼ NW¼ Sec. 3 T12S R21E
Clapp Spring	T9S R20E

San Bernardino County

Whipple Mountains

All springs, Copper Basin and Colorado River

Granite Mountains

Canis Spring	SE¼ SW¼ Sec. 18 T8N R12E
Budwizer Spring	SE¼ NE¼ Sec. 20 T8N R12E
Mensch Spring	NE¼ NE¼ Sec. 27 T9N R12E
Lower Dad Spring	SW¼ NE¼ Sec. 23 T8N R12E
Cottonwood Spring	NW¼ NW¼ Sec. 7 T8N R13E
Twin Spring	SW¼ SW¼ Sec. 30 T9N R13E
Coyote Spring	NW¼ NE¼ Sec. 25 T9N R12E

Marl Mountains

Marl Spring	SE¼ NE¼ Sec. 36 T13N R12E

Providence Mountains

Toughnut Spring	NW¼ SW¼ Sec. 30 T11N R14E
Summit Spring	SE¼ NW¼ Sec. 16 T11N R14E
Lyon Well	SW¼ NE¼ Sec. 16 T11N R14E
Beecher Spring	NE¼ NE¼ Sec. 16 T11N R14E
Cave Spring	SE¼ NW¼ Sec. 32 T11N R15E

Piute Mountains

Barrel Spring	Sec. 13 T17N R17E
Fenner Spring	Sec. 28 T8N R18E

Inyo County

Saline Range

Upper Warm Spring	SW¼ SE¼ Sec. 5 T13S R39E MDBM

State Range

All Waters

Panamint Range

All waters on west slope.

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Miss Patricia Moehlman

RESEARCH ON BEHAVIORAL ECOLOGY OF FERAL ASSES (EQUUS ASINUS)
in
THE NORTHERN PANIMINT RANGE - DEATH VALLEY NATIONAL MONUMENT

B.A. Degree - Wellesley College, Massachusetts

M.A. Degree - University of Texas, Austin

Ph.D. Degree - University of Wisconsin, Madison

Miss Moehlman is presently a professor in the Department of Biological Sciences at Chico State University, Chico, California.

Social Behavior and Ecology of Feral Asses (Equus asimus) in the Northern Panamint Range of Death Valley National Monument

I. Study Area

II. Study Period : March 1970-August 1971
May-June 1972
June 1973

III. Methods

IV. Population Characteristics
- A. Population size and distribution
  1. Distribution according to season and year
  2. Range of known individuals
  3. Territorial males
- B. Natality
  1. Sexual behavior and general physiology of reproduction
     a. age of sexual maturity
     b. gestation
     c. estrus
  2. Foal/female ratios
  3. Individual interfoaling periods

V. Social Organization
- A. Group Structure and stability
- B. Group size
- C. Inter-individual spacing
- D. Territorial behavior in adult males

VI. General Activity Patterns
- A. Browsing
  1. Percentage of Plant species and ground cover for six toe-point Transects at increasing distances from Wildrose spring
  2. Chi Square and Fisher's Exact Test analysis of species utilization in different toe-point transects
  3. Kruskal-Wallis ranking test of vegetation transects sampled in 1972

- B. Watering
  1. Average number of minutes spent by individuals within 400 yds. of the Wildrose station watering trough
  2. Number of seconds spent drinking per age and sex class (seasonal)
  3. 24 hour pattern of drinking

VII. Daily Activity Pattern
  1. Population diurnal activity pattern
     a. total population activity pattern
     b. variation in activity pattern for individuals in different group context
  2. 24-hour activity pattern of territorial male #138

Miss Kathy Ayres, Inyo National Forest

B.S. in Conservation of Natural Resources
University of California, Berkeley
(Slide Presentation)

Miss Ayers, an employee of the Forest Service, has been working and studying horses in the White Mountains of the Inyo National Forest as a part of the forest's resource management program with the specific purpose of recognizing and developing Forest Service responsibilities under the Wild Horse and Burro Act.

In line with this, she has developed a visual aid program for explaining the act and her findings to the public in and around Bishop, California.

Kathy Ayres

Wild Horses of The White Mountains

A year after the Wild Horse and Burro Act was passed, White Mountain District on the Inyo National Forest initiated a horse inventory study to provide information useful in the sound management of the White Mountain herd and its habitat. I've been working year-round to gather data on numbers, reproduction rates, band ranges, seasonal distribution, and interactions with livestock and wildlife.

The White Mountains are a desert range on the California-Nevada border. They are circled by paved highways, but the steep canyons and ridges of the interior for the most part require travel by foot or horseback. The overlapping ranges of the desert bighorn sheep and the wild horse suggest possible interactions between the two species concerning forage and space.

The White Mountains run north and south in the center of this slide and are about 40 miles long. White Mountain Peak is just over 14,000 feet high. The wild horses range on the eastern slopes while the bighorn sheep use the more rugged western slopes, but in the summer their ranges overlap on the crest. About 20 years ago, a time of reportedly fewer horses, there were sheep sightings low down in the foothills of the east side but now the sheep stay on the crest and west side, leaving open the

possibility that the horses are pushing the sheep back into a smaller area.

The ancestry of the White Mountain herd is thought to date back to the 1800's from escaped ranch horses and later upgraded by Grayhaired Johnny, a Piute horse doctor who replaced some of the original stallions with thoroughbred stallions he got from the southern California race tracks.

I have used bits of local history like the story of Grayhaired Johnny together with biological information to enhance public presentations for civic groups, forest visitors, school groups and the like.

I also point out in these slide talk presentations to the public the act's provisions; for example, the fact that although these horses are not pure mustangs (note the mare still showing saddle spots) they are still protected by the law, which concerns all free-roaming, unbranded, unclaimed horses on public land regardless of bloodlines.

Here's a summary of what we've been doing and learned from the study in the Whites: First, we've found that the horses are found at all elevations on the east side north of White Mountain Peak, from 5,000 feet on the valley floor, to 13,000 feet on the crest. They occupy all vegetation types present within the territory, including shadscale, sagebrush, pinyon-sagebrush, mountain shrub and limber pine, and alpine fill fields of the crest.

Data gathering has been done by driving and walking the area, riding horseback, cross-country skiing, spring watching and aerial surveys by fixed wing and helicopter.

The herd has been inventoried by bands for data on sex ratios, age classes, and reproductive rates. Individuals are also identified by color and markings. We haven't yet gotten an accurate aerial count, so eventually hope to identify each band and its individuals and thus count them in this manner. An estimate for the herd size is 150.

A significant number of animals stay on lower elevation BLM land in the winter and move up to Forest Service land in the summer months. South facing slopes seem to get the heaviest use in winter and the ridges in areas near water get heavy use in summer.

Last winter one of the range permittees claimed that the horses used over half the available forage on the wet meadows before the cattle arrived in late spring. So we put up grazing exclosures in several different canyons. Upon inspection of the exclosures in the spring, it became apparent that there was no significant horse use of the meadows. As the summer progressed, there seemed to be little overlaps at all by horses or cattle due to the rugged terrain. Cattle tended to stay in the canyon bottoms and the horses remained on the ridges and used higher elevation springs, only occasionally decending to the streams. Further study in a dry year may yield more information on this.

Some of the ridges and hillsides get very heavy horse use. Vegetation and soil condition is deteriorating due to heavy trampling and close grazing. We hope to do a complete range analysis of the wild horse territory next year.

Pellesier Flat on the crest of the Whites is an area of potential conflict as mentioned earlier. It is used not only by horses, cattle, and bighorn sheep, but has also been designated a wilderness study area possibly leading to a wilderness classification. There seems to be little overlap between cattle and bighorn sheep or horses but there may be conflict for forage and space between the horses and bighorn. In turn, if a wilderness area is established horses and bighorn will be protected from vehicles but may suffer from increased human use.

So far, the Forest Service hasn't encountered any problems with protection of the wild horses and the claiming procedures of private animals.

We are now hoping to begin working on a sound management plan to be based on future range analysis information and data from this study.

DEPARTMENT OF THE NAVY
NAVAL WEAPONS CENTER
CHINA LAKE, CALIFORNIA 93555

IN REPLY REFER TO:

70309/TB:gtl
5 November 1973

MEMORANDUM

From: Chairman, NWC Natural Resources Advisory Council
To: Chairman, National Advisory Council on Wild Free-Roaming Horses and Burros

Subj: Feral burros on NWC lands

1. Distribution of Feral Burros:

Wild, free-roaming burros are found in arid, unpopulated areas of all the western states, except Washington and Montana. The principal concentrations are in California, Arizona, Nevada and New Mexico.(1)

Populations in California are concentrated in mountainous, unpopulated regions of Kern, Inyo, San Bernardino, Riverside and Imperial Counties. A population is also reported along the California-Nevada line in Lassen County.

In the Upper Mojave Desert where the Naval Weapons Center is located, wild burros, in addition to the herds on the Center, are found in Saline Valley, Death Valley National Monument and the Panamint Valley and the surrounding desert mountains.

On the Naval Weapons Center, burros exist on the China Lake Test Ranges as well as the Mojave "B"-Randsburg Wash Test Ranges.

Estimates of burro populations are derived from counts made both from the air and on the ground. California Department of Fish and Game estimates that approximately 30% of the animals are tallied during census taking. A count made by NWC personnel on Monday, 19 March, from a Navy helicopter, tallied 129 burros, mostly adults. Based on the CDFG formula, this would represent a total population of approximately 430 burros. The area of intense search covered about 50 square miles of the east side of the Slate Range and the southern terminus of Panamint Valley within NWC lands.

(1) Department of Agriculture Bulletin V XLIX No 1 1960
The California Undomesticated Burro, J. W. Koehler

2. Ecology of Feral Burros:

Although the undomesticated burros of the western United States are descendents of domesticated stock, they have made a remarkable adaptation to the harsh environment of their present habitats.

Typically, the areas of burro concentration are extremely arid, less than 6 to 10 inches of annual rainfall. Vegetation in these areas is sparse with little or no grass and few perennial forage plants.

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5 November 1973

Burros tend to congregate around water sources where their grazing and trampling destroys vegetation. This, in turn, affects all wildlife, especially smaller species that cannot range far from their water sources. Denudation around waterholes destroys food sources, nesting sites and protective cover for small wildlife. Critical reductions in these species affect the survival of predators and so disrupts the entire biotic community.

Longevity of wild burros has not been studied, but one authority estimates 25 to 40 years as their lifespan.(1)

Burros have no natural enemies or predators to serve as natural checks on population. Frequency of foaling among wild burros has not been established, but may logically be correlated with precipitation and seasonal forage production.

It is the contention of some wildlife biologists that burros tend to become the dominant species in a habitat. Native species such as desert bighorn sheep retreat when burros dominate the habitat according to these authorities.

Burros are free-roaming rather than territorial within the limitations of available water. When they have exhausted the forage in an area, they tend to move to other areas within range of their water source. Continuous over-graze by burros constitutes a threat to the welfare of this species as well as all wildlife.

(1) Department of Agriculture Bulletin V XLIX No 1 1960
The California Undomesticated Burro, J. W. Koehler

3. Feral Burros on NWC Lands:

Excessive populations of burros on Center lands have been a matter of concern and considerable discussion for many years. File correspondence on this problem dates as far back as 1958.

Burro reductions have been conducted on the Center under permit from the California Department of Agriculture as follows:

1965 - 1966	50 burros
1966 - 1967	150 burros

Both of these reductions took place on the China Lake Test Range Complex and were supervised by game managers of the California Department of Fish and Game.

In 1968-1969, a permit for an additional reduction of 200 burros was requested and granted by the State. Due to pending federal legislation affecting wild burros, the permit was allowed to expire unused.

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No previous reductions have been made in the area presently under discussion, although the deteriorating condition of the range has been a matter of concern for several years.

Although no historic climatic data is available for the Slate Range, general drought conditions have prevailed during 1970, 1971 and until late in 1972 throughout the Mojave Desert. Food for wildlife reached a critically low state late in 1972.

NWC personnel observed wild burros in the Slate Range and southern Panamint Valley in poor condition. Some animals were weak and stumbling; some that fell struggled to their feet with obvious difficulty. Fresh remains of burros were found near waterholes. It was not possible to determine exact causes of death because predators and scavengers cleaned these remains in a very short time.

4. Slate Range-South Panamint Valley Region: (Summary - factors affecting the resources)

a. Vegetation and Food Supply -

Normal or slightly better rainfall late in 1972 has brought out excellent growth of herbaceous annual plants.

Perennial forage plants which grow more slowly than spring annuals are leafing out and will probably reach full bloom and seeding by mid-May. Desirable forage plants such as cattle spinach, bursage and thornbush have been closely cropped and hedged by burros during the recent drought years. Ability of this vegetation to make a normal recovery with large numbers of burros using it is problematical.

b. The Entire Biotic Community -

Overgrazing and compaction of soils from trampling burros around waterholes has denuded the immediate vicinity of these watering places of food, protective cover and nest sites for smaller native wildlife. This effect on native mammals, birds and reptiles will, in turn, affect populations of native predators - coyotes, bobcats, foxes, hawks and golden eagles.

c. Soils and Terrain -

Visible damage is being done to the terrain of the Slate Range by burros. Trailing and terracing is evident throughout this extremely arid mountain range. Around the only three springs in the entire range, terracing is excessive and grazing and trampling have compacted the soils.

This area is subject to occasional violent thundershowers during the late summer and fall.

70309/TB:gtl
5 November 1973

In addition to damage from trailing and terracing, extensive gullying and erosion can be expected from heavy burro use in this area.

d. The Burros -

Although the winter rains of 1972-1973 have triggered the growth of abundant annuals that will probably provide food for the burros into late summer, perennial forage plants are in short supply.

During the extremely dry, hot months of summer in this area, only two springs can be depended upon to provide water for the burros.

Following this winter and spring of good growth of annuals, colt production can be expected to rise during 1974. An upswing in the already heavy population would make the stresses on burros for survival in this area even more critical.

The welfare of any species, wild or domesticated, is determined by its ability to obtain food and water.

Estimates of colt production among feral burros range from 23 to 50 per cent.(2)

(2) State of California - DFG Wildlife Management Branch
Status of Feral Burros in California, 1972

This rate of colt production, combined with the estimated longevity of the burros, makes the outlook for their future as a species on the Slate Range-Panamint Valley one of marginal or near-starvation conditions.

5. NWC Management Proposals for Feral Burros:

The annual meeting of the NWC Natural Resources Advisory Council and the cooperating agencies that serve as technical advisors in wildlife and resource management (U. S. Department of the Interior: Bureau of Land Management, and Bureau of Sports Fisheries and Wildlife; and the California Department of Fish and Game) was held in September 1972. It was unanimously decided to recommend an immediate reduction of 200 burros in the Slate Range-Panamint Valley region of Mojave "B" Aerial Gunnery Range in view of stress conditions on the biota resulting from prolonged drought.

A recommendation to the Commander, NWC and a suggested letter of application to the California Department of Agriculture were prepared.

The Center's request to the California Department of Agriculture for an emergency permit to remove 200 wild burros was forwarded for comment to the Bureau of Land Management, the Bureau of Sports Fisheries and Wildlife and the California Department of Fish and Game on 22 November 1972.

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In mid-December, a Range Management Specialist from the State Office of the Bureau of Land Management, the District Range Area Manager, a Biologist from the State Department of Agriculture and NWC personnel made a first-hand survey of the area where a reduction was being considered. The BLM Range Management Specialist classed vegetative density in the Slate Range-Panamint Valley region as 5 to 10% ground density. He commented on the absence of grass, the close to heavy use on scarce forage plants, and the denuded conditions around watering places.

Based on recommendations of the three state and federal agencies and the first-hand observation of its biologist, the California Department of Agriculture forwarded a six-month permit to kill 200 wild burros to the Commander, NWC. This permit, dated 2 March 1973, has not, at this date, been countersigned by the Commander.

Indirect opposition to the Center's plan to reduce burros on NWC lands was expressed at a March meeting of the BLM State Advisory Board by a private citizen.

In mid-March, a representative of the California Department of Agriculture called from Sacramento to advise he had been contacted by the west coast field representative of the Humane Society of the United States regarding the planned burro reduction. In this conversation, he indicated that he felt the Humane Society was a reasonable organization and would give consideration to the Center's management objectives if they were given the opportunity for a first-hand survey of the area under consideration.

After a discussion with the Assistant Public Works Officer, the west coast field representative was invited to tour the area when he initiated a call to NWC.

The Regional Director and the west coast field representative toured the Slate Range-Panamint Valley area of NWC on 3 April. Prior to their arrival, NWC requested that a representative of the California Department of Agriculture and the Riverside District of BLM accompany this survey trip. Both agencies agreed to this. At the last minute, the expected representatives of both these agencies cancelled their plans to accompany the Humane Society on the survey trip.

Throughout the preliminary planning of the proposed burro reduction, NWC considered turning the reduction over to the U. S. Bureau of Sport Fisheries and Wildlife to be the best management technique for dealing with excess burros.

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At a meeting in Sacramento in March, the California State Supervisor of the U. S. Fish and Wildlife Service agreed that his was the appropriate agency to perform this service for NWC. Commitments through Fiscal Year 1973, he explained, would not permit his agency to take on the work. As an alternative, the U. S. Fish and Wildlife Service would serve as the supervisory or managing agency if the burro reduction were to be performed by designated NWC personnel. A request to the Regional Director of the U. S. Fish and Wildlife Service for assistance in the burro reduction program is in preparation.

6. Applicable Federal and State Laws:

Land comprising the Naval Weapons Center is not legally defined as "Public Lands". The term "Public Lands" usually signifies such government or state lands as are open to public sale or other disposition under general laws and are not held back or reserved for any governmental or public purpose. The term does not include all lands that are owned by the United States or the states. (63AM Jur 2nd 476).

Section 2(e) of Public Law 92-195 defines "Public Lands" to mean any lands administered by the Secretary of the Interior through the Bureau of Land Management or by the Secretary of Agriculture through the Forest Service.

The Federal Government is a large landholder in the State of California. When the Federal Government acquired the land that makes up the Naval Weapons Center, United States did not request nor did the State of California relinquish political or legal jurisdiction. The United States only possesses proprietary jurisdiction over the land and the Federal Government may deal with such lands precisely as any private individual may deal with his property in the State of California.

With respect to Public Law 92-195, the Naval Weapons Center stands as a private landowner; in that, Section 4 of the Act states "Nothing in this section shall be construed to prohibit a private landowner from maintaining wild free-roaming horses or burros on his private lands or lands leased from the government; if he does so in a manner that protects them from harrassment and if the animals were not willfully removed or enticed from the public lands. Section 8 of the Act subjects to a fine of not more than $2,000 or imprisonment for not more than one year or both; any person who, (a) willfully removes or attempts to remove a wild free-roaming horse or burro from the public lands without authority from the Secretary or (b) converts a wild free-roaming horse or burro to private use without authority from the Secretary or (c) maliciously causes the death or harrassment of any wild free-roaming horse or burro or (d) processes or permits to be processed into commercial products the remains of a wild free-roaming horse or burro

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or (e) sells directly or indirectly a wild free-roaming horse or burro maintained on private or leased land pursuant to Section 4 of this Act or the remains thereof, or (f) willfully violates a regulation issued pursuant to this Act."

A state in the exercise of its police power may enact or make reasonable statutes and regulations governing wild free-roaming horses and burros that are not inconsistent with Federal enactments and regulations. As a general rule, the Federal Government is without power to prescribe regulations for the protection of fish and game while within the boundaries of a state. (35 AM Jur 674).

It is not only the right of states, but their duty, to take such means as are reasonably necessary to conserve the fish and game within its jurisdiction from extermination or undue depletion. (35 AM Jur 2nd 671).

The State of California has enacted reasonable statutes in the Fish and Game Code governing the killing or capturing of undomesticated burros. Section 4187 of the Fish and Game Code provides that the Department of Agriculture may issue a permit to kill burros which damage property.

Section 4605 of the Fish and Game Code provides that the total number of burros which may be taken under such permits shall be determined by the Department of Agriculture which shall base its determination on the number of burros necessary to properly preserve and maintain the species in relation to the available land.

The Naval Weapons Center has complied with the State laws and the spirit of Public Law 92-195 in that the proposed reduction of the burros is a management activity carried out in consultation with the wildlife agencies of the State of California and those of the Federal Government, and is necessary in order to protect the natural ecological balance of all wildlife species which inhabit the Naval Weapons Center.

1784(330)

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

SEP 17 1973

Memorandum

To: Members, National Advisory Board on Wild Free-Roaming Horses and Burros

From: Secretary of the Interior

Subject: Call to Meet

Secretary of Agriculture Earl L. Butz and I have called a meeting of the National Advisory Board for Wild Free-Roaming Horses and Burros in Lake Havasu City, Arizona, on November 6, 7, and 8, 1973.

You will be advised of further details by the Director, Bureau of Land Management.

Rogers C B Morton

United States
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Washington

Notice of Meeting

National Advisory Board
on
Wild Free-Roaming Horses and Burros

Notice is hereby given that the National Advisory Board for Wild Free-Roaming Horses and Burros will hold its fourth meeting November 6, 7, and 8 at the Ramada Inn, Lake Havasu City, Arizona. The agenda for the meeting will include for the first day a field trip by the Board to review management problems associated with wild burros. The second day will include presentations by persons selected for their knowledge and expertise in studying and observing wild burros. The last one-half day will be committee discussions and recommendations on wild burro management.

The meeting will be open to the public. Seating will be available for about 30 observers. Time will be available for a limited number of brief statements by members of the public. Those persons wishing to make an oral statement must inform the Advisory Board Chairman in writing prior to the meeting of the Board. Any interested person may file a written statement with the Board for its consideration. The Advisory Board Chairman is Dr. C. Wayne Cook.

Written statements should be submitted to Dr. Cook c/o the Director (330), Bureau of Land Management, Washington, D.C. 20240.

Curt Berklund

Director

IN REPLY REFER TO:

1214(330)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

OCT 30 1973

Memorandum

To: Kay W. Wilkes, Chief, Division of Range

From: Director

Subject: Delegation of Authority - November 1973 Meeting of the Wild Horse and Burro Advisory Board.

Pursuant to the authority delegated to me by the Secretary of the Interior, I hereby delegate to you authority and responsibility to act as authorized representative of the Secretary at the November 6, 7, and 8, 1973, meeting of the Joint National Advisory Board on Wild Free-Roaming Horses and Burros.

Ed Hastey

Acting Associate

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Washington, D.C. 20250

2260
October 25, 1973

TO: Director, Bureau of Land Management
U. S. Department of the Interior

SUBJECT: Fourth Meeting of the National Advisory Board on Wild Free-Roaming Horses and Burros

Mr. W. B. Gallaher will represent the Secretary of Agriculture at the November 6-8 meeting of the National Advisory Board on Wild Free-Roaming Horses and Burros. I have delegated my official responsibilities in this regard to him for this meeting.

FRANK J. SMITH
Director of Range Management